NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

AN ANALYSIS OF THE EXPRESS PURCHASE (XP) PROGRAM

by

Dennis A. Alba

December 1999

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An automated reconciliation program is a valuable tool in facilitating Department of the Navy (DoN) purchase card operations. The Express Purchase (XP) Program was designated as an interim solution to meet DoN's needs for automating the Purchase Card Program. The Naval Postgraduate School (NPS) at Monterey, California was chosen as one of many beta-test sites to assess XP. Funding for the XP program was terminated, but NPS pursued with the implementation of the system. This thesis analyzes the purchase card process at NPS and NMC San Diego; analyzes the payment methods deployed at each facility; and compares the payment histories of DoN, NPS, and NMC San Diego. Data were obtained by conducting personal interviews, examining Department of Defense (DoD) policies, and reviewing historical payment statistics at NPS, NMC San Diego, and Naval Supply Systems Command (NAVSUP). Fully compatible with XP and in compliance with DoD regulations, NPS employed the transactional payment method, streamlining many of the critical tasks in the program. The XP system proved to be a highly efficient and labor saving tool, resulting in reduced payment delinquencies and expedited payment processing.

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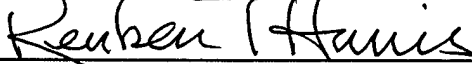Dennis A. Alba

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ABSTRACT

An automated reconciliation program is a valuable tool in facilitating Department of the Navy (DoN) purchase card operations. The Express Purchase (XP) Program was designated as an interim solution to meet DoN's needs for automating the Purchase Card Program. The Naval Postgraduate School (NPS) at Monterey, California was chosen as one of many beta-test sites to assess XP. Funding for the XP program was terminated, but NPS pursued with the implementation of the system. This thesis analyzes the purchase card process at NPS and NMC San Diego; analyzes the payment methods deployed at each facility; and compares the payment histories of DoN, NPS, and NMC San Diego. Data were obtained by conducting personal interviews, examining Department of Defense (DoD) policies, and reviewing historical payment statistics at NPS, NMC San Diego, and Naval Supply Systems Command (NAVSUP). Fully compatible with XP and in compliance with DoD regulations, NPS employed the transactional payment method, streamlining many of the critical tasks in the program. The XP system proved to be a highly efficient and labor saving tool, resulting in reduced payment delinquencies and expedited payment processing.

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I. INTRODUCTION

This thesis evaluates the Express Purchase (XP) System, which is an electronic management tool used at the Naval Postgraduate School (NPS) to automate purchase card functions of the Government-wide Commercial Purchase Card Program. This paper illustrates the benefits of the XP Program by examining its use in each stage of the purchase card program's purchase cycle. Additionally, purchase card operations and payment methods (transactional versus bulk-funding) are compared at NPS and Naval Medical Center (NMC), San Diego to analyze the purchase card program's effectiveness at each facility. The purchase card payment history in the Department of Navy (DoN) is discussed to demonstrate how DoN fared compared to NPS.

A. PURCHASE CARD BACKGROUND

In 1982, a presidential executive order directed executive agencies to lower their procurement costs. Consequently, in 1986, the government began testing a government credit card, known as the "purchase card." The test results showed that the purchase card was superior to traditional procurement methods because of its efficiency and cost-effectiveness in procuring goods and services. (General Accounting Office, 1996)

In 1989, a contract with the Rocky Mountain BankCard System was negotiated for use government-wide. The General Services Administration (GSA) was appointed as the administrating agency (General Accounting Office, 1996). The Vice President's 1993 National Performance Review (NPR) found that more savings could be produced with increased use of the purchase card (Department of Defense, 1997). In the report, the

NPR made two significant recommendations: (1) that federal executive agencies fully utilize the purchase card, and (2) that the Federal Acquisition Regulation (FAR) be amended to promote using the card for small purchases. (General Accounting Office, 1996)

Following the NPR, in 1994 and 1995, the purchase card received support from executive agencies to maximize its benefits. In 1994, the President endorsed the Federal Streamlining Acquisition Act (FASA) which reengineered the manner in which purchases under $2,500 dollars were made. FASA stated that over 98 percent of purchase transactions were completed under $25,000, and most of those were under $2,500. Therefore, FASA created the "micro-purchase" category (purchases less than $2,500) and relaxed purchasing restrictions for transactions under $2,500. This made government purchases simpler and quicker. (San Antonio Electronic Resource Center, 1999)

Following FASA, Executive Order 12931 was signed in October 1994. This executive order further encouraged using the purchase card and expanded its scope by delegating the card to the end-user's level (Executive Order 12931, 1994).

In 1995, Rocky Mountain BankCard System was offered the contract to provide services (throughout DoD) for the micro-purchase card, better known as the International Merchant Procurement Authorization Card (IMPAC) (Naval Supply Systems Command, 1998c). For DoN, the contract with IMPAC ended on 30 November 1998, and Citibank Corp provided purchase card services (Naval Supply Systems Command, 1998d).

Since the inception of the purchase card program, DoD has continuously strived for more efficiency in the program. In 1997, recommendations to improve the business

practices of the purchase card program were presented by Joint Purchase Card Teams to the Under Secretary of Defense (Department of Defense, 1997). One of the recommendations in the Joint Report suggested developing a standardized purchase card management system (also known as an automated reconciliation system) for DoD (Department of Defense, 1997).

In 1997, DoN had chosen the XP program for DoN-wide implementation; NPS was one of the sites selected to test the program (Cartwright, 1999). The program was later cancelled, but NPS continued to use the XP system. As NPS gradually learned the mechanics of the XP system, their efficiencies increased while their payment delinquencies decreased. At the same time, DoN suffered through delinquent payment issues, although measures were taken to resolve them.

B. BACKGROUND OF ACTIVITIES UNDER RESEARCH

NPS is a DoN activity located in Monterey, California. Its mission is to provide graduate level education to Department of Defense (DoD) commissioned officers, foreign military officers, and government employees. The total annual budget of NPS, which includes direct and reimbursable funding, is approximately $91 million dollars (Panis, 1999). NPS has 123 authorized cardholders, who are dispersed among the various departments throughout the command. NPS monthly purchase card invoices average approximately one million dollars in purchase transactions (Linser, 1999b). The command utilizes the Express Purchase (XP) and Funds Administration and Standardized Document Automation (FASTDATA) system to automate cardholder, accounting, reconciliation, and payment functions.

Naval Medical Center (NMC) San Diego is a large medical treatment facility (MTF) under the operational control of the Bureau of Medicine and Surgery (BUMED). The total annual budget of NMC San Diego, including reimbursables, is approximately $177 million dollars (Scott, 1999). NMC San Diego has a total of 64 purchase cardholders averaging $640 thousand dollars in monthly credit card purchases (Borup, 1999). Unlike NPS, NMC San Diego has had as many as 53 cardholders centralized within the Materials Management Department (Borup, 1999). Similar to NPS, the hospital employs an automated purchase card management system, called the Requisition Procurement System Version 3.0 (RPSV3).

C.   RESEARCH QUESTIONS

1.   Primary Research Question

a. What are the benefits of using the Express Purchase (XP) Program in the purchasing, accounting, reconciliation, and payment operations at the Naval Postgraduate School?

2.   Secondary Research Questions

a. What are the differences between the transactional and bulk-funding payment methods?

b. Why was the funding for the Express Purchase Program terminated?

c. Why did the Express Purchase Card Program continue at the Naval Postgraduate School after DoN-wide funding was terminated?

D.   DISCUSSION

Prior to the "micro-purchase" procurement program, the traditional process to order office supplies and consumable items included filling out a requisition and forwarding it to a procurement office. Multiple individuals within the procurement office checked the document for accuracy and compliance with DoD and DoN regulations. A purchasing agent placed the order for the items (either through local inventory, mandatory sources, DoD supply channels, or open market means) and returned copies of the procurement documents to the accounting office (of the requesting party) for entry into the accounting system. Multiple copies of documents were exchanged among various departments within the command for internal control and auditing purposes. The process was inefficient due to the tremendous amount of paperwork involved and the amount of redundancy built into the system. However, the purchase card process for supplies meeting the "micropurchase" threshold was reengineered to reduce paperwork, increase efficiencies, and save costs. (General Accounting Office, 1996; Department of Defense, 1997; Assistant Secretary of Defense, 1999)

The new micropurchase process was much simpler and quicker for purchasing supplies less than $2,500. Similar to the traditional procurement method, the basic purchase card program procedures begin with the end user submitting a purchase request (to the cardholder). The cardholder screens the request for funds availability and to ensure that the item is purchased from the appropriate supply source as outlined in the FAR, Part 8. In order of priority, the goods must be purchased either from local inventories, Federal Prison Industries (FPI), National Industries of the Blind (NIB),

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National Institute of the Severely Handicapped (NISH), wholesale supply sources, Federal Supply Schedules, and commercial sources. Once the purchase request is screened, the cardholder contacts a vendor and if the price and terms of the transaction meet FAR and Naval Supply Systems Command (NAVSUP) requirements, the cardholder places the order. (Department of Defense, 1997)

At the end of the monthly billing cycle, the cardholder receives a billing statement which the cardholder reconciles against purchases completed during the billing period. Transactions not yet received (but shipped) at the time of statement reconciliation are treated as though they were received and are processed for payment. This is known as "pay and confirm" (Naval Supply Systems Command, 1999a). Once the invoice is completely reconciled, the cardholder forwards the statement to the Approving Official (AO) who verifies the transactions and certifies the invoice for payment. The certified invoice is then forwarded to Defense Finance and Accounting Service (DFAS), which electronically transfers funds to the bank to pay the invoice.

E.   SCOPE OF THE THESIS

This thesis evaluates the internal processes of the Express Purchase (XP) system at the Naval Postgraduate School. The complete cycle of a purchase transaction is documented, from the initiation of a purchase request to the payment processing of the monthly invoice. The automated purchase card systems at NPS and NMC San Diego are compared to identify processing differences, cost savings, and program effectiveness.

F.   ASSUMPTIONS

This research assumes that the reader possesses basic knowledge in micro-purchase card procedures, and is familiar with the Federal Acquisition Regulation. Additionally, this thesis assumes that the reader has fundamental knowledge of DoN budgeting, accounting, and purchasing concepts at the activity level.

G.   METHODOLOGY

Data for this research were primarily derived from personal interviews with key personnel working in the purchase cycle of the Government-wide Commercial Purchase Card Program at the Naval Postgraduate School and NMC San Diego. Interviews were also conducted with XP project managers and programmers from the Space and Naval Warfare Systems (SPAWAR) Center, Chesapeake, Virginia, and with RPSV3 program coordinators assigned to the Fleet Industrial Support Center, San Diego. Other research data were obtained from comprehensive reviews of purchase card manuals, DoD regulations, DoD correspondence, naval messages, financial data (from DoN, NPS, and NMC San Diego) and federal executive agency reports. Moreover, payment methods (transactional versus bulk-funding) at each facility were examined for effectiveness. Additionally, a cost analysis was conducted to determine if savings may result from the use of the XP automated system. Lastly, DoN payment delinquencies were analyzed and compared with NPS's payment history to assess XP's effectiveness.

H.   BENEFITS OF THE STUDY

The results of this research should underscore the efficiencies and potential cost savings from using the XP Program to perform automated operations in NPS's purchase card program.

I.   ORGANIZATION OF THE THESIS

Chapter I explains the purpose, scope, and methodology used for this thesis. Chapter II explains the research methodologies for the study. Chapter III reviews NPS's automated purchase card process. Chapter IV outlines the automated process at NMC San Diego. Chapter V discusses the financial status of the purchase card program for DoN, NPS, and NMC San Diego. Chapter V also describes the purchase card system that will be distributed navy-wide. Chapter VI analyzes the research data. Chapter VII contains the conclusions and recommendations of this thesis. Appendix A defines acronyms used in this thesis. Appendix B contains output displays from various menus of the XP system. Appendix C lists interest penalty computations for DoN and actual interest charges for NPS.

II. RESEARCH METHODOLOGY

This thesis required gathering data from a number of sources using multiple collection methods. This chapter discusses the types of data gathered, how they were obtained, the sources of the data, and the analyses performed on the collected data.

A. DATA GATHERING

Data collection included reviewing the following documents pertaining to the purchase card program: government policies, reports, regulations, naval correspondence, memoranda, vendor training manuals, systems manuals, and historical payment information. On-site personal interviews were conducted with key personnel in the fiscal and supply areas of the purchase card program at NPS and NMC San Diego. Inquiries via telephone and electronic mail were conducted to obtain information regarding automated purchase card systems information from various naval activities. Additionally, purchase card payment statistics were obtained during personal interviews and by electronic mail methods from NAVSUP, NPS, and NMC San Diego.

1. Policy Review

The initial step in the data gathering was to determine the chronology and purposes of the purchase card program by reviewing DoD policy statements. The following documents provided background information of the purchase card program: Federal Streamlining Act of 1994; Executive Order 12931 (dated 13 October 1994); GAO Report for Acquisition Reform (1996); and Joint Report of the Purchase Card Financial Management Team and the Purchase Card Integrated Product Team (1997).

DoD memoranda and DoN messages were examined to note significant policy changes in the purchase card program.

2. Process Review

The Joint Report of the Purchase Card Financial Management Team and the Purchase Card Integrated Product Team (1997), the International Merchant Purchase Authorization Card (IMPAC) training manual, and the NAVSUP Financial Management Instructor Guide (Purchase Card Program) outlined the responsibilities of key personnel, and explained the essential processes of the purchase card cycle. In addition, personal interviews with NPS personnel, such as cardholders, accounting technicians, budget analysts, and financial managers, provided insight to program processes at the activity level using the transactional payment method, and the Express Purchase (XP) and Funds Administration and Standardized Document Automation (FASTDATA) systems. To understand the integration of the automated systems used at NPS, the author attended the NPS Financial Automation Initiatives Conference held on 27 - 29 April 1999.

Personal interviews were also conducted with employees assigned to the fiscal and supply departments at the Naval Medical Center, San Diego. Purchasing agents, accounting technicians, budget division personnel, receiving handlers, supply staff members, and data entry specialists discussed their roles in processing purchase card transactions.

3. Automated Systems Review

Telephone conversations and other remote communications methods (i.e., e-mail and fax) were used to collect information about the automated systems installed at NPS

and San Diego. Project managers and software programmers at SPAWAR provided background information for XP through telephone conversations and electronic mail messages. The RPSV3 program coordinator provided information regarding the RPSV3 automated system via telephone and electronic mail. Program operations were reviewed in the manuals of the XP, FASTDATA, and the RPSV3 system to understand basic functions of each automated system.

4.   Delinquent Payment Data

Telephone interviews were conducted and electronic mail messages exchanged with various managers at NAVSUP in order to secure data regarding the DoN payment delinquency issue. Also, NAVSUP provided detailed spreadsheets and graphs regarding payment and purchasing information since 1997.

5.   Future Implementation

Lastly, DoN messages were reviewed and telephone interviews conducted with NAVSUP personnel to understand the operations of the automated purchase card system called Citidirect. Citidirect is being presented as the solution to meet the automated requirements for the purchase card program (Robinson, 1999).

B.   COMPARISON OF AUTOMATED SYSTEMS PROCESSES AND PAYMENT METHODS

This thesis specifically examined the flow of purchase information from the point of entry into the automated systems to the final recording of the accounting transaction for invoice payment at both NPS and NMC San Diego. The thesis identifies similarities,

as well as contrasts, between the XP and RPSV3 systems through direct observation and discussion from key personnel in the purchase cycle.

Emphasis was placed on collecting information about the payment processing methods employed at NPS and NMC San Diego to compare and contrast the procedures at each location. The data are used to determine the effectiveness of the payment methods utilized at each location. Also, a cost analysis is performed to determine if savings may be produced or costs avoided using the DoD prescribed payment method at shore installations.

C.   DATA COMPARISON OF NPS VERSUS DON PERFORMANCE

Payment delinquency data were gathered to compare the purchase card performance of NPS against that of DoN. Payment delinquencies experienced by DoN are matched against interest charges paid by NPS since 1997. Since NPS chose to continue using the XP system after NAVSUP terminated funding for the project, delinquency payment data are reviewed to determine if the decision by NPS to remain with the XP system benefited the command.

III. OVERVIEW OF NPS PURCHASE CARD AUTOMATION

This chapter discusses the automated processes of the purchase card program at NPS. First, the chapter begins with background information about the XP, FASTDATA, and STARS-FL systems currently used by NPS cardholders and fiscal personnel. Next, the chapter continues by discussing the initial data requirements for the XP and FASTDATA systems. Last, the chapter reviews the NPS automated purchase card process, including purchasing, receiving, reconciliation, and accounting.

A. NPS AUTOMATED SYSTEMS

1. Express Purchase (XP) System

a) Program History

The XP program was first introduced to the Navy by the Navy Management Systems Support Office (NAVMASSO), which changed its name to SPAWAR Systems Support Office Chesapeake in October 1997 (Anderton, 1999b). XP is described as a flexible, automated software package that allows cardholders to record and manage purchase transactions, perform queries of the XP database, print reports and electronic forms, certify invoices, and prepare files for electronic accounting and payment processing into a financial system such as STARS-FL (Navy Management Support Office, 1997a). Since XP accumulates purchase transactions in a central database, audit functions are designed to be quick and easy to perform by financial managers. Additionally, the XP system is presented as providing efficient audit trails to

source documents, user information, and individual transactions. (Anderton, 1999a; Navy Management Support Office, 1997a; Cartwright, 1999)

The precursor to XP was the Purchasing Automated Data Processing System (PADPS). It was a proprietary program used exclusively in Shore Intermediate Maintenance Activity (SIMA) commands (Amspacher, 1999a). The initial version of PADPS was used to automate contract processing for materials and supplies valued at less than $100,000 (Anderton, 1999a). PADPS was only one of six programs designated as interim solutions to automate purchase card operations until DoD found a suitable contractor that met the automated requirements of the purchase card program (Anderton, 1999a; Robinson, 1999). Shortly after incorporating the micro-purchase card innovation into FASA and FAR, the Express Purchase (XP) module was added to the PADPS system to record purchase card transactions. Naval Sea Systems (NAVSEA) Command initially funded the PADPS project. DFAS supplemented funding after tasking NAVMASSO to create an electronic interface for processing obligations, accounts payable, and certification-related transactions between PADPS and the DFAS Operating Locations (OPLOCS). (Amspacher, 1999a; Anderton, 1999a)

PADPS demonstrated an ability to process micro-purchase transactions, as a result a meeting was held to discuss implementing the program navy-wide. The meeting was chaired by the Assistant Secretary of the Navy (Financial Management Office) and attended by representatives from DFAS and NAVSUP. At this meeting, the PADPS program was selected to be distributed throughout DoN to automate the purchase

card program at the activity level. It was at that time that the PADPS system name was changed to "XP" (Anderton, 1999a).

b) NPS Tests XP

In 1997, NPS was one of several sites selected to evaluate and test the XP program. In view of the fact that the XP system was an interim solution to automate the purchase card program, the XP evaluation and testing period was brief. In 1998, funding for the project was cancelled as DoN was preparing to convert the credit card program to the new contractor, Citibank Corp (Naval Supply Systems Command, 1998a). Citibank had offered a solution to meet the automated needs of the DoN purchase card program, resulting in the successful award of the contract, with purchase card services beginning on 30 November 1998. As stated in a naval message from the Assistant Secretary of the Navy, Financial Management and Comptroller (1999), Citibank agreed to design a web-based purchase management system called Citidirect. The new system would perform electronic accounting and payment functions, and would link with DFAS using a standard Electronic Commerce/Electronic Data Interchange (EC/EDI) file-format for entry into the STARS-FL system.

NPS management was convinced, however, that with a few program changes, XP could electronically streamline and solve their purchase card management requirements. They received a waiver from the Assistant Secretary of Navy, Financial Management Office, authorizing the continued use of the program, since naval funding for the XP program had been officially terminated. Residual program funding (as well as funds provided by NPS) was programmed to complete system testing and evaluation at

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NPS. NPS coordinated with SPAWAR contractors to tailor the software to meet the needs of all NPS users, from clerks to managers. SPAWAR software programmers worked on-site for a period of two and a half weeks to resolve many of the NPS user issues identified by fiscal, supply, and cardholder personnel. (Cartwright, 1999)

c) *Transactional Funding with XP*

With permission to continue with the XP system, NPS decided to keep using the transactional funding method to prepare their invoices for payment, despite a DoD mandate to implement "bulk-funding" payment procedures (discussed in the following paragraph). Prior to implementing XP, NPS processed their invoices by manually entering transactions into the accounting system (as an obligation). When the billing statement arrived, each purchase transaction was certified for payment, and accounting data for each line-item was manually recorded on a payment form to pay the invoice. Monthly invoices, often including 1800 accounting lines, would have to be manually typed on a payment form (Moore, 1999).

Although the transcription duty was arduous for accounting personnel, the task was necessary to retain the individual purchase information for cost accounting purposes. However, after implementing the XP system, NPS was able to transform manual protocols into a fully automated transactional payment process. More importantly, the XP system preserved accounting details of individual purchase transactions as the financial data were processed. Therefore, the XP system computerized the transactional payment process, maintained essential accounting data, and reduced processing payment time.

d)   *Bulk-funding Disadvantages*

As mention above, DoD changed the payment policy by mandating bulk-funding methods to pay purchase card invoices (Under Secretary of Defense, 1997). Bulk-funding payment involves accumulating amounts from all Approving Official invoices into one accounting line, which is then obligated for payment by DFAS. This means that accounting details in the financial system are lumped into one accounting record. While the method is simple, it lacks the detailed accounting information that shore commands require to account for expenses at various cost centers.

In order to recapture costs at the cost center level, expenses must be reversed from the single (**bulk-funded obligation**) accounting line. For example, if a bulk-funded obligation in the accounting system, designated as "N0012345MDPURCH," is paid by DFAS, an accounting technician must gather all the recorded purchase requisitions for that billing cycle to perform the cost transfer function. Each purchase requisition contains accounting data (already recorded in the financial system as an **individual obligation** for that unique purchase transaction) that identifies the cost center and the amount of the transaction. Using the STARS-FL financial system, the accounting technician must manually transfer the purchase requisition (**individual obligation**) from the "PURCHASEOCT99" (**bulk-funded obligation**) accounting line to complete the cost transfer. In effect, costs are transferred and recorded to the cost center, which created the expense. At NPS, as many as 1,800 "cost transfers" would be completed once the invoice was paid to redirect the expenses to the appropriate cost center (Moore, 1999). This process would require hours to complete, and if NPS had switched to this payment

method, NPS financial managers estimated that as many as five additional accounting personnel would have been needed to perform cost-transfer tasks (Moore, 1999). Because of the disadvantages of the bulk-funding method, NPS chose to remain with the transactional payment method. (Cartwright, 1999)

e)   *System Highlights*

In addition to electronic payment processing capabilities, XP has other automated qualities that improve the effectiveness of the purchase card program. The XP system operates well in a network environment, storing purchase card data in a centralized storage location.   With multiple points of entry linked to a centralized database, cardholders are able to access the XP system on their desktop computer from any location on the NPS campus. (Navy Management Support Office, 1997a)

Additionally, this system is fully integrated with the FASTDATA and STARS-FL systems, which NPS currently uses. The XP system, in conjunction with the other two systems, simplifies and expedites the entire purchase cycle for cardholders and fiscal personnel.   The system minimizes keyboard entries, reduces accounting errors, streamlines accounting operations, and decreases invoice-processing time.' (Navy Management Support Office, 1997a)

What sets the system apart from other automated purchase card systems, is that XP provides the capability to electronically process invoice payments. This is a time and labor saving feature. NPS is one of two naval sites (the other is Supervisor of Ship Building (SUPSHIPS), Newport News, VA) that has the ability to electronically send certified invoices for payment to DFAS (Cartwright, 1999; Naval Supply Systems

Command, 1998a). Because of the electronic payment processing feature, the XP system conforms to the "To Be" model in the 1997 Joint Report of the Purchase Card Financial Management Team and the Purchase Card Integrated Product Team. In this report, DoD recommended that an intelligent system (indicated as the "To Be" model) should be designed to directly connect with a disbursing office in order to streamline purchase card operations. In summary, with the features discussed above, XP is a fully functional, DoD-compliant, and automated package that enhances the efficiencies and the effectiveness of the NPS purchase card program.

f)   *Program Cost*

Prior to canceling funding, the $875,000 XP program was centrally financed by NAVSUP. The program was available for navy-wide distribution and installation (Anderton, 1999a). However, since the project funding has been terminated, the software is currently being offered by SPAWAR on a reimbursable basis at an annual cost of $2,500 (Amspacher, 1999b). The annual expenditure covers program maintenance, life cycle, and customer support. On-site training costs $500 per day for commands located outside of the Norfolk area (Amspacher, 1999b).

2.   Funds Administration and Standardized Document Automation (FASTDATA) System

FASTDATA is an electronic interface that imports purchase data from the XP database, performs intermediate processing operations, and links directly with the STARS system for accounting functions. It also serves as the vehicle for memorandum accounting at NPS, provides internal financial controls, and produces financial

management reports. In their entirety, XP transactions flow into FASTDATA as detailed accounting entries. The entries are then verified using comparison tables pre-loaded into the FASTDATA system to determine the availability of workcenter funds and the accuracy of the accounting entries. A budget analyst in the fiscal department verifies the data, and if the information is accurate, a computerized file is generated and is electronically uploaded into STARS-FL for obligation purposes. Additionally, FASTDATA retrieves accounting information from STARS-FL (i.e., payment and expenditure information) to update local accounting records within the FASTDATA system. (Cartwright, 1999; Panis, 1999)

3. STARS-FL Financial System

STARS-FL is the official financial system sanctioned by DoD for recording accounting transactions at the activity level. Transactions generated by XP are electronically processed via FASTDATA, and are officially recorded in STARS-FL. With the use of the automated systems, such as XP and FASTDATA, accounting and payment functions are streamlined eliminating manual accounting input, increasing accounting throughput, and minimizing typographical errors. Additionally, with these systems, NPS avoids payment processing using bulk-funding guidelines. (Cartwright, 1999)

Figure 1 illustrates the integrated links of the XP, FASTDATA, and STARS-FL

systems utilized by NPS. This Chapter discussed the processes of each system in more

detail. An overview of the transactions that flow through these systems is as follows. As

the cardholders record transactions, the information flows to FASTDATA for processing

and is uploaded (obligated) to the STARS-FL official financial system. Expenditures are

downloaded to update local memorandum accounting records. At the end of the billing

cycle, invoices are certified for payment and are forwarded to SPAWAR for conversion

to a format acceptable to the STARS-FL system. SPAWAR processes the file and

transmits the information directly to STARS-FL, in which payment is made by DFAS.
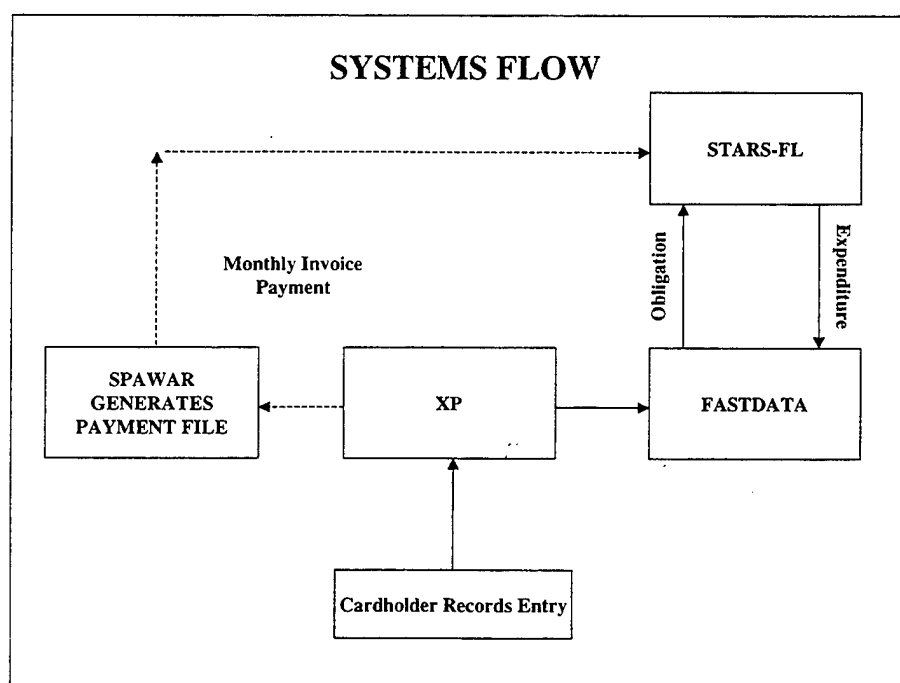
SYSTEMS FLOW

Figure 1. Flow of Systems in Use at NPS

B.   INITIAL SYSTEMS REQUIREMENTS

Prior to using either the XP or FASTDATA systems, a system administrator loads essential data in the databases to eliminate redundant entries and to ensure accurate information is processed during the accounting and disbursement stages.

1.   XP Pre-loaded Data

The XP system maintains pre-loaded data tables, such as cardholders, vendors and accounting information.   The system administrator carefully screens the information entered in the database, ensuring the data adheres to Financial Management Regulations, as well as NAVSUP requirements.   An XP systems administrator manages a user database, composed of passwords and other pertinent cardholder identification data, and authorizes cardholder access to the XP database.

Using historical data from previous purchases and NAVSUP rules for guidance, vendor information is manually entered in the system by a systems administrator.   A vendor database helps the cardholder select a source from which to purchase supplies.   A drop-down menu in XP is equipped with a vendor listing for the cardholder.   Also, this feature is an internal control design that prevents cardholders from placing orders with unauthorized vendors (Moore, 1999).

Only one line of accounting data must be entered into the XP system.   These data are formatted in a manner acceptable to the STARS-FL system.   By doing so, the user (cardholder, accounting technician, or budget analyst) need not manually enter accounting data for each reconciliation or disbursement transaction, thereby saving time and minimizing keyboard errors.

2. FASTDATA Pre-loaded Data

The FASTDATA system also contains pre-loaded information, ensuring efficient and accurate operations. A budget analyst in the Comptroller's Department is responsible for entering accounting and budgeting information, such as JONs, OPTAR codes, OPTAR amounts, and ranges of serial numbers for each department allocated with OPTAR funding (Panis, 1999). The pre-loaded information is critical to ensure the information quality as it flows from the XP system to STARS-FL. When the purchase data from XP are electronically forwarded to FASTDATA, accounting data are compared against the accounting tables in FASTDATA. Any accounting data from the purchase card transaction that are not synchronized with pre-loaded accounting data are rejected by FASTDATA.

For example, if cardholders enter erroneous JONs, the FASTDATA system flags the transaction as an error. A budget analyst would then resolve the error by entering the correct JON or by contacting the cardholder to forward an acceptable JON. Additionally, OPTAR information and accounting records are automatically verified and updated as individual purchases are recorded in XP and processed through FASTDATA. As a result, the FASTDATA system is able to produce accurate OPTAR reports for each funded department, as well as provide financial managers with cost accounting information to assist with assessing the command's financial performance. (Panis, 1999)

C. NPS PURCHASE CARD PROCESS

1. Purchasing

The process normally begins with an end user, from an academic department, submitting a purchase request (PR). The purchase request is forwarded to a department budget officer, who checks the requesting department's OPTAR balance. If funds are available to cover the cost of the request, the budget officer enters a job order number (JON) and a requisition number on the requesting document. The budget officer deducts the price indicated on the request from the department's OPTAR balance, and forwards it to the department's purchase cardholder. A flow diagram of the purchase process is depicted in Figure 2.

PURCHASING

| PURCHASE REQUEST INITIATED | → | BUDGET OFFICER VERIFIES REQUEST | → | CARD-HOLDER PLACES ORDER | → | ORDER RECORDED IN XP |
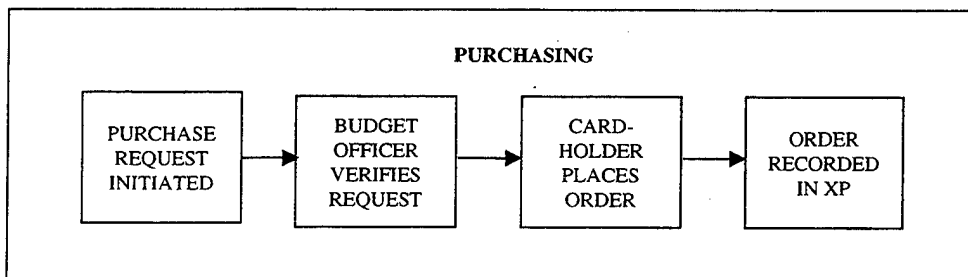
Figure 2. NPS Purchasing Diagram

Complying with the FAR and NAVSUP requirements, the cardholder contacts a vendor and places the order, either by telephone or in-person. The cardholder advises the vendor to place an NPS tracking number on the shipping label for internal tracking purposes. On a daily basis, cardholders provide the receiving department with a listing of the items ordered, sorted by tracking number. (Schoolfield, 1999)

Information such as requisition number, JON, quantity purchased, vendor, requesting department, requestor's name, date of purchase, amount of purchase, expense

element, unit of issue, fund code, and cardholder's name are entered into the XP system by the cardholder. Refer to Appendix B for screen displays (two) to record a purchase. After placing the order, local directives mandate that the cardholder record the ordering information into the XP system within 24 hours. At the cardholder's request, the XP system prints a buyer's worksheet, which complies with the FAR's policy that cardholders document any order placed with the purchase card. Appendix B provides an example of a buyer's worksheet generated by XP. (Schoolfield, 1999)

2. Receiving

Upon receiving the item, the receiving department notes the internal tracking number on the parcel's shipping label, and matches it against outstanding shipments. The tracking number is compared with the purchase request information and the receiving handler verifies the parcel's contents. If the contents and the ordering information are identical, the receiving handler marks the invoice as received, enters the date of receipt, and initials the document. The merchandise is then delivered to the requesting department. The typical receiving function flow is illustrated in Figure 3.
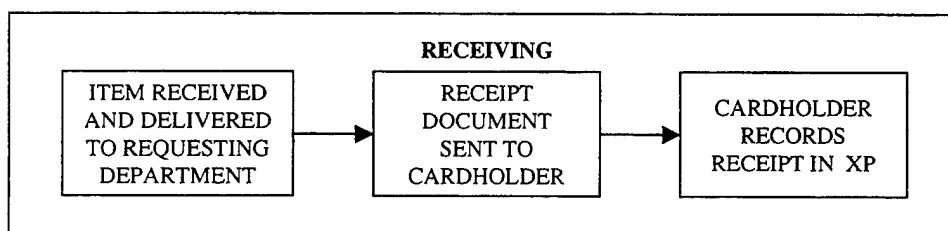
Figure 3. NPS Receiving Diagram

The receiving document is forwarded to the cardholder, who finalizes the purchase transaction by entering receiving information into the XP system. The cardholder enters the requisition number in XP to retrieve the purchase information for

that specific order. Data fields appear on the screen allowing the cardholder to enter information, such as date of receipt, quantity received, name of person receiving the merchandise, shipping discrepancy, and whether shipment was sent in entirety or as a partial shipment. Refer to Appendix B for screen displays (two) for recording a receipt. Each completed transaction is stored in the XP central database until end-of-cycle reconciling operations are performed. (Schoolfield, 1999)

3.   Reconciliation

At the end of the month, the Agency Program Coordinator (APC) receives a consolidated invoice for NPS.   The APC notifies all cardholders (and Approving Officials), via e-mail, to commence reconciling their invoices, and marks the deadline to complete the task.   NPS requires that all cardholders submit their certified invoices to the accounting department within three days (Doctor, 1999).   If the cardholder did not receive a bank invoice, the cardholder contacts the APC for a copy of the statement.   The reconciliation process is shown in Figure 4.

The cardholder begins the reconciliation stage by comparing the invoice against purchase transactions that occurred during the billing cycle. Purchases not physically received, but charged on the invoice, are treated as if the items were, in fact, received. The merchandise will be paid, but confirmation with the vendor will be subsequently pursued. This complies with DoD's policy of "pay and confirm" (Under Secretary of Defense, 1997).

· Some transactions are posted on the statement before the item is actually received. When this occurs, the cardholder contacts the vendor to inquire about the order's status.

If the merchandise is in transit, no action needs to be taken. However, if the item has not been received by the following billing statement, the cardholder files a dispute report with the bank. (Schoolfield, 1999)

Once the individual purchase files are successfully compared against the invoice, the cardholder selects the certification option in XP to complete the reconciliation process. Two windows are displayed on the screen to reconcile the transactions. Refer to Appendix B for screen displays (two) of reconciling operations. Pertinent column headings include requisition number, receipt number, quantity ordered, and date of receipt. The cardholder simply selects the appropriate transactions on the left window for certification; certified transactions are then transposed to the right window.

RECONCILIATION

| CARDHOLDER RECONCILES STATEMENT IN XP | → | AO REVIEWS | → | HARDCOPY SENT TO FISCAL DEPT FOR ARCHIVING | → | PAYMENT FILE SENT TO DFAS VIA SPAWAR |
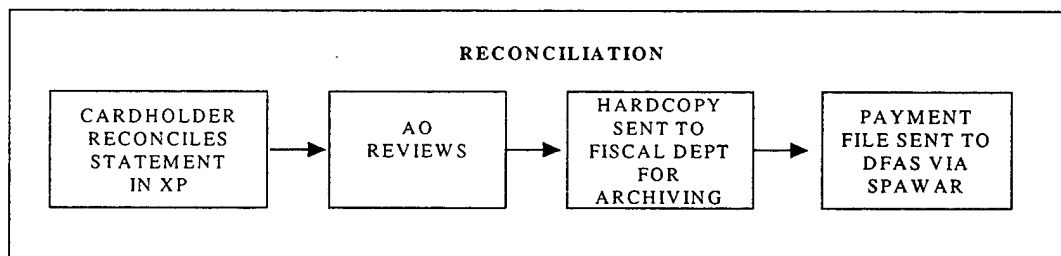
Figure 4. NPS Reconciliation Diagram

Once all purchases are identified and reconciled, another screen is displayed allowing the cardholder to enter information such as invoice number, invoice total, and the amount paid. Refer to Appendix B for a screen display to enter invoice information.

In the final part of the reconciliation phase, XP displays a screen for user input concerning cardholder and Approving Official identification information. Refer to Appendix B for certification statement. After the cardholder enters the information in the appropriate fields, an electronic form is generated containing certifying statements and

signature lines for the cardholder and the Approving Official. The payment certification form also includes detailed lines of accounting for each purchase transaction, providing for cost analysis at the appropriate level deemed necessary for budget analysts in the fiscal department. The computer automatically prints all the accounting information that was accumulated for each transaction. The cardholder reviews the certification form, signs it, and forwards the document to the Approving Official. The Approving Official reviews and subsequently certifies the form, authorizing payment of the invoice. A copy is maintained with the cardholder and another hardcopy is forwarded to the accounting department for payment processing. (Schoolfield, 1999)

4.   Accounting

On a daily basis; the accounting department processes all cardholder transactions through XP. Using a module in XP, an accounting technician creates a "B1" file. This is a computer generated text file compatible with the FASTDATA format. The B1 file created by XP contains the accounting details for each cardholder transaction. The XP system gathers all cardholder transactions that were recorded in the central database, and it formats each transaction into a batched B1 file. The B1 file contains critical information that allows funds to be obligated and updates official and local memorandum accounting records for each cardholder transaction. The B1 file is forwarded to the Budget Analyst (within the Comptroller Department), who prepares the information using the FASTDATA system and electronically uploads the file to post the obligations into STARS-FL. Prior to the upload, transactions previously processed in the STARS-FL

system are retrieved to update local accounting records and avoid duplicating data (i.e., recording redundant obligations). (Panis, 1999)

At the end of the billing cycle, the accounting department receives the certified invoices from all of the Approving Officials. The accounting department is required to process all the invoices for payment within a two-day period, according to local guidelines. An accounting technician sorts the invoices by Approving Official (then by cardholder assigned to that Approving Official) and verifies the names and account numbers against a master listing. This ensures invoice account information matches the cardholders' and Approving Officials' data that were pre-loaded into XP, minimizing errors downstream in the payment process. Each cardholder's total invoice, as well as the detailed lines of accounting, is e-mailed to SPAWAR. SPAWAR converts the information into an electronic file that can be uploaded into STARS-FL for online payment purposes. The normal time for SPAWAR processing is about three days. (Doctor, 1999)

Once the file is successfully processed by SPAWAR, it is e-mailed to the Deputy Comptroller's Office, via the accounting department. The Deputy Comptroller compares the processed file against a STARS-FL extracted file, which lists purchase card obligations for that billing cycle. This task is known as "obligation validation." It ensures that obligated funds exist for each purchase when DFAS pays the invoice. Additionally, this operation verifies the payment file's accuracy to streamline DFAS's payment process. Errors discovered at DFAS slow the payment process, which could subsequently lead to interest charges against that invoice. Coordination between NPS

and SPAWAR is crucial when resolving accounting discrepancies. After validating the information between the files, SPAWAR receives NPS's approval to forward the file to DFAS, who eventually performs an electronic-funds-transfer to Citibank. (Cartwright, 1999; Doctor 1999)

D.   SUMMARY OF MANUAL ACCOUNTING DATA ENTRY

Table 1 summarizes processes that involve manual accounting data input. The column containing an "X" identifies processes that introduced original accounting information into one of the three NPS electronic systems. The column with "*" symbols denotes processes that manually modified original accounting data or XP transaction records. NPS entered accounting data only once in the entire purchase card cycle, which minimizes errors by avoiding redundant accounting data entries.

Process	Accounting Data (i.e., Document no., JON)	Transaction Updates (i.e., Invoice data, JON, Vendor, Qty, Cost, Date, Name)
Purchasing	X	
Receiving		*
Reconciliation		*
Accounting		*
Total	1	3

Table 1. NPS Processes with Manual Accounting Data Input

IV. OVERVIEW OF NMC SAN DIEGO PURCHASE CARD AUTOMATION

This chapter discusses the automated purchase card system and the purchase card program processes at Naval Medical Center, San Diego. The chapter begins by discussing the Requisition Procurement System Version 3.0 (RPSV3). Next, the chapter describes the bulk-funded payment method utilized by NMC San Diego. Last, the chapter outlines the purchasing, receiving, reconciliation, and accounting functions within the facility.

A. NMC SAN DIEGO AUTOMATED SYSTEM

1. Requisition Procurement System Version 3.0 (RPSV3)

NMC San Diego employs an automated system, called Requisition Procurement System Version 3.0 (RPSV3). The program was developed, and is currently maintained, by the program coordinator assigned to the Fleet Industrial Support Center (FISC), San Diego, CA. The program was initially designed to automate contracting functions. It was later revised to accommodate the Purchase Card Program. The program records purchase transactions, reconciles billing statements, enables receipt functions, and stores and retrieves purchase information from a centralized database over a local area network (LAN). The program is available, free of charge, to shipboard platforms and shore installations. Program maintenance and upgrades are performed on an as-needed basis. (Stevens, 1999)

RPSV3 streamlines purchase card operations for purchase cardholders, receiving personnel, and other material management staff. Cardholders, Approving Officials, and

Agency Program Coordinators (APC) have varying levels of access to the RPSV3 database, depending on the information they require to perform their duties (Johnson, 1999). Thus, RPSV3 is a time-saving automated tool that electronically processes purchase card operations for cardholder and support personnel.

B. BULK-FUNDING PAYMENT METHOD

Unlike NPS, NMC San Diego pays their invoices using the bulk-funding concept, as mandated by DoD. A predetermined single accounting line is designated to accumulate the invoice charges for all Approving Officials within the command. The total of all Approving Official invoices should match the command's aggregate total, which is maintained by the Agency Program Coordinator. It is this aggregate total that is obligated in STARS-FL using the designated single line of accounting. DFAS then pays the entire obligation by electronically transferring funds to Citibank. Once the payment is confirmed in the accounting system, the accounting department redistributes the costs from that single line of accounting to the individual accounting records for each purchase transaction (Gibbons, 1999; Schroen, 1999). If the invoices were reconciled accurately and the cost redistributions were transferred properly, the single line of accounting should be reduced to a zero balance (Schroen, 1999). The cost redistribution essentially breaks down the single journal entry into multiple journal entries. This procedure is often unwieldy since transferring costs to a multitude of accounting lines is time-consuming, labor-intensive, and error-prone (Cartwright, 1999; Moore, 1999).

C. NMC SAN DIEGO PURCHASE CARD PROCESS

1. Purchasing

The process begins with a purchase request generated from the end-user's directorate, department, or division. This request is forwarded to the Budget Office. The routine document flow for a purchase card order is illustrated in Figure 5.

PURCHASING

```
┌─────────────┐    ┌───────────────┐    ┌──────────────┐         ┌──────────────┐
│  PURCHASE   │───▶│ BUDGET OFFICE │───▶│  TECHNICAL   │- - - -▶│  ACCOUNTING  │
│  REQUEST    │    │               │    │   CONTROL    │         │  DEPARTMENT  │
│             │    │               │    │   DIVISION   │         │              │
└─────────────┘    └───────────────┘    └──────────────┘         └──────────────┘
                                                 │
                     ┌───────────────────────────┘
                     ▼
┌─────────────┐    ┌───────────────┐    ┌──────────────┐
│  WORKLOAD   │───▶│  DATA ENTRY   │───▶│  CARDHOLDER  │
│  MANAGER    │    │  TECHNICIAN   │    │              │
└─────────────┘    └───────────────┘    └──────────────┘
```
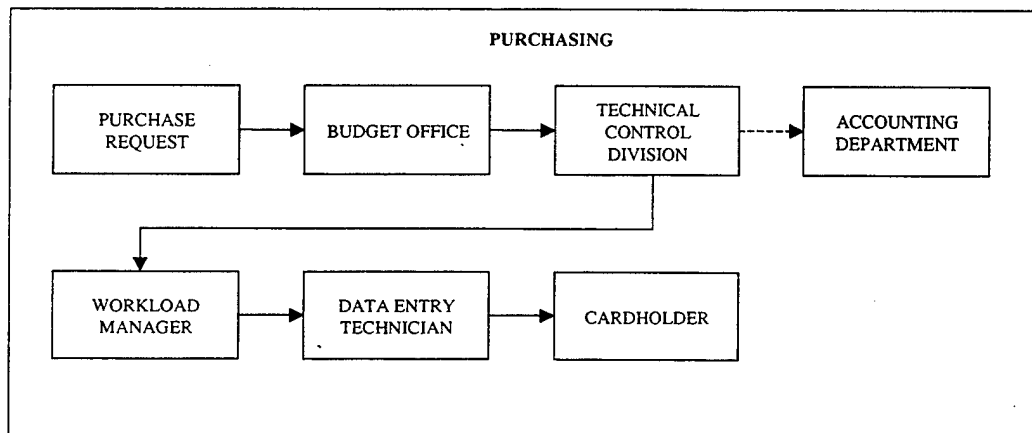
Figure 5. NMC San Diego Purchasing Diagram

A budget technician within the Budget Office ensures funds are available for that specific workcenter by comparing the requested amount against a weekly Operating Target (OPTAR) Report. The budget technician also validates the accounting information on the document (i.e., JON and document number). If sufficient funds exist, the purchase request is affixed with an approval statement (Corpus, 1999). The original document is sent to the Material Management Department, and a copy of the request is forwarded to the accounting department.

An accounting technician reviews the purchase request, and enters a "commitment" in the STARS-FL accounting system. Once the accounting entry is posted,

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the copy of the purchase request is filed, leaving an audit trail for that specific transaction.

The Technical Control Division in the Material Management Department reviews the original purchase request, which was forwarded from the Budget Office. A technical controller screens the purchase request to ensure that it complies with DoD, NAVSUP, and FAR requirements. For example, certain merchandise is provided by vendors registered with the National Industries of the Blind (NIB), National Industries of the Severely Handicapped (NISH), or the Federal Prison Industries (FPI). If the requested items are manufactured by the above sources, then the appropriate vendor is selected as the supply source. Additionally, the review ensures that the item has received required approvals from the Hazardous Materials (HAZMAT) Officer and the Information Resources Management Department (IRMD). If the purchase is available from a locally supported inventory source within the facility, then the purchase is redirected to the warehouse. After screening the purchase request, it is appropriately stamped, dated, initialed, and forwarded to the Workload Manager. (Gabat, 1999)

The Workload Manager reviews the purchase request and matches the type of item being purchased to the appropriate purchasing agent within the Materials Management Department. Each buyer is specifically tasked to purchase certain categories of goods and services, and each buyer is identified by a unique three-letter code. For example, buyer AAA might be tasked with purchasing pulmonary, anesthesiology, and orthopedic equipment, while buyer BBB might be assigned to purchase pharmaceuticals, office supplies, cardiothoracic surgical supplies, and books.

Once the purchasing agent and the type of goods are matched, the workload manager affixes the buyer's code to the purchase request. The document is then forwarded to the Data Entry Section. (Wright, 1999)

A data entry specialist enters all the appropriate data from the PR into the RPSV3 system, including item description, quantity, estimated cost, shipping cost, vendor, and purchase request number. The purchase request number is a key field in the RPSV3 system; ordering information is initially tracked by this alphanumeric code. The specialist then forwards the requisition to the cardholder. (Bittner, 1999)

Upon receipt of the purchase request, the cardholder enters the purchase request number in the RPSV3 system to retrieve the ordering information. The vendor identified on the PR is contacted. If delivery terms and price are satisfactory, the purchase is completed with the vendor. The cardholder enters a purchase order number, which indicates that the order was successfully placed with the vendor. The cardholder then manually enters the ordering information on a logsheet as objective evidence that the purchase transaction was completed. The logsheet also preserves the sequence of the purchase order numbers entered into RPSV3 by that cardholder. Each cardholder is assigned a block of purchase order numbers that they are authorized to use once the order is placed. Other pertinent purchase information is updated in the RPSV3 system, including estimated delivery date, price, and estimated shipping costs. A copy of the purchase order is printed and filed with the cardholder; another copy is forwarded to the accounting department. (Johnson, 1999)

2. Receiving

When the item arrives at the loading dock in the Receiving Department, a material handler notes the purchase order number on the shipping label, and enters it in the RPSV3 system. The RPSV3 system returns shipping status information for the received items. If the item has not been previously received, the receiver prints the purchase order. This is used as a receiving document. Annotations are entered on the receiving document, indicating the quantity and date that the item was received, as well as the receiving handler's initials. The document is forwarded to the Processing Division, which is a subordinate workcenter within the Receiving Department. A processing technician updates the purchase order in RPSV3, verifying that the item was received. The end-user is then notified to pick up the supplies. At the end of the day, a processing technician generates a daily receiving report, which lists all the items received on that day. The supporting receiving documents are batched together with the receiving report, and forwarded to the Receipt Control Division. (Adams, 1999)

The Receipt Control Division Supervisor collates the receiving documents and distributes them to each cardholder. The cardholders then update their purchase files using RPSV3 (Sanchez, 1999). The receiving function is illustrated in Figure 6.
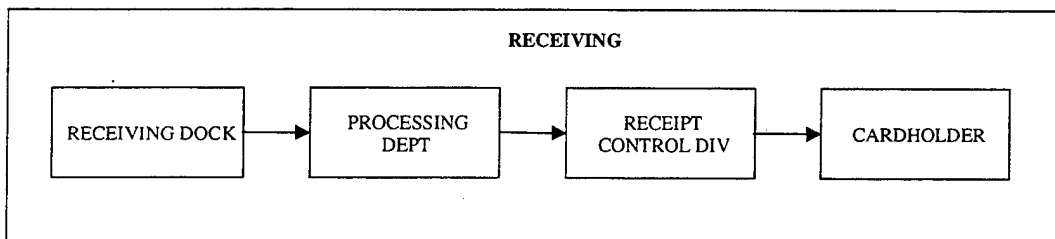
Figure 6. NMC San Diego Receiving Diagram

3. Reconciliation

At the end of the billing cycle, each cardholder receives an invoice from the APC. Local policy dictates that the cardholder reconcile the billing statement within five days of receiving the statement. At this time, the cardholder manually compares the invoice against the individual purchases that were completed during the month. The cardholder ensures that the invoice total matches the aggregate of the individual purchase records for the billing cycle.

If a discrepancy exists, the cardholder contacts the vendor to rectify the error. Common mistakes are duplicate charges, unauthorized billings, and duplicate shipments. If the company cannot resolve the matter, a dispute form is completed and the disputed amount is deducted from the invoice. If the dispute is in favor of the cardholder, the bank issues a credit on the next billing statement. If the merchandise is in transit, but not verified as received, the order is treated as received and marked for payment. Once the invoice is reconciled, it is forwarded to the Approving Official. The Approving Official reviews it for compliance with program regulations and certifies the invoice for payment. The invoice and supporting documents are then forwarded to the Receipt Control Division. Figure 7 diagrams the reconciliation process. (Johnson, 1999)

A voucher examiner collects all of the invoices from the Approving Officials and re-reconciles them to verify their accuracy. The voucher examiner groups the cardholder statements by Approving Official invoice number and proceeds with the reconciliation. Although each cardholder manually reconciled their respective statements, and each Approving Official thoroughly reviewed his or her respective invoice, the voucher

examiner performs another reconciliation. This reconciliation is completed electronically. A detailed listing of transactions is retrieved from the RPSV3 database for each cardholder, and the voucher examiner verifies the accounting information against each cardholder's statement. The voucher examiner reviews and processes as many as 3000 accounting entries per month in this manner. On average, it takes three weeks each month to electronically reconcile cardholder statements. If the reconciled listing in the RPSV3 system matches the sum of the cardholder statements (grouped by Approving Official), invoice payment forms produced by the system are sent to the accounting department. (Isip, 1999)
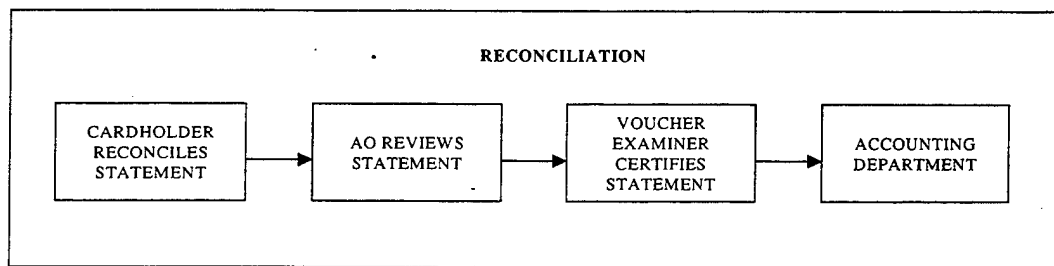
Figure 7. NMC San Diego Reconciliation Diagram

4. Accounting

An accounting technician subsequently enters the invoice payment information in the STARS-FL system as an "obligation." There are multiple Approving Officials appointed within the MTF, thus it is conceivable to have multiple payment certifications sharing a single line of accounting. The total of all the Approving Official invoices are accumulated in one accounting line, which is then obligated for payment (Gibbons, 1999).

For shore installations like NMC San Diego, detailed accounting records must be maintained for cost accounting purposes. Therefore, the single accounting line will be distributed among the individual purchase transactions identified during the voucher examiner's electronic reconciliation (approximately 3000 lines per month).

Once DFAS has paid the invoice, the accounting technician transfers the amount produced by the individual purchase transaction from the single bulk-funded accounting line using STARS-FL. This distributes costs to responsible cost centers. After completing the task, memorandum accounts and other management reports may be produced to provide a more detailed cost breakdown within the MTF. If the reconciliation procedures and the cost transfers were conducted properly, the obligated line of accounting should balance to zero (Schroen, 1999).

D.   SUMMARY OF MANUAL ACCOUNTING DATA INPUT

Table 2 identifies NMC San Diego's processes that required manual accounting data entry. The column containing the letter "X" identifies processes that introduced original accounting information into RPSV3 or STARS-FL. The column with a "*" denotes processes that updated original data or RPSV3 transaction records.

NMC San Diego manually recorded accounting information in two processes: purchasing and accounting. Moreover, the accounting process included two areas that involved manual input: obligations and payment processing. This contradicts DoD's policy of using one source for data entry. As the number of processes that employ manual techniques increases, the probability for error increases.

Process	Accounting Data (i.e., Document no., JON)	Transaction Updates (i.e., Invoice data, JON, Vendor, Qty, Cost, Date, Name)
Purchasing	X	
Receiving		*
Reconciliation		*
Accounting: Obligations	X	
Accounting: Payment Processing	X	
Accounting: Cost Transfers		*
Total	3	3

Table 2. Summary of NMC San Diego Processes with Manual Accounting Data

Input

V.   PURCHASE CARD PROGRAM STATUS

Since the inception of the purchase card program, DoN experienced delinquent payment problems despite measures to resolve them. This chapter examines the trends in DoN payment delinquencies as shifts in policy occurred. Next, the payment performances of NPS and NMC San Diego are discussed. The chapter concludes by describing the replacement purchase card system that will potentially eliminate DoN's payment and efficiency issues.

A.   DON PAYMENT DELINQUENCIES

Shortly after implementing the International Merchant Purchase Authorization Card (IMPAC) Program with Rocky Mountain BankCard System, the purchase card program incurred increasing delinquent payment charges. Figure 8 shows the monthly delinquent problems starting from July 1997 until April 1999. The graph indicates outstanding monthly payments of 60 days or more. Note that the payment delinquencies were gradually reduced to zero for the Rocky Mountain BankCard System, but this trend reflects the conversion to the Corporate Payment System (CPS).
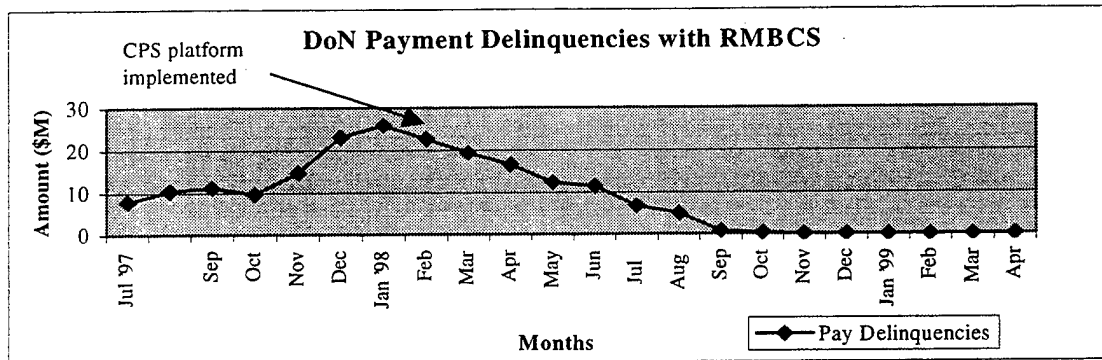
Figure 8. Don Payment Delinquencies with RMBCS

Source: Naval Supply Systems Command, 1999.

CPS was a commercial payment system used by First Bank, the parent of Rocky Mountain Bank (Under Secretary of Defense, 1996). DoD found that the Rocky Mountain BankCard System was unable to provide revolving balances and billing at the Approving Official level, so DoD modified the IMPAC contract. Rocky Mountain BankCard was replaced by First Bank. When that occurred, DoD required CPS to be deployed by all military components (Under Secretary of Defense, 1996). In February 1998, NAVSUP implemented the CPS platform navy-wide (Long, 1999). Moreover, the bulk-funding payment system was mandated throughout DoD during this timeframe to address payment delinquency issues (Under Secretary of Defense, 1997).

With the CPS platform and the new bulk-funding policy, another wave of payment delinquencies replaced the late payment problems previously encountered. Figure 9 illustrates a gradual increase from May 1998 to January 1999, followed by a decrease to April 1999. In November 1998, the contract with First Bank ended and Citibank Corp provided purchase card services (Assistant Secretary of Navy, 1999). As

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of this writing, all DoN CPS delinquencies have been settled, closing out the IMPAC

program (Long, 1999).

Don Payment Delinquencies With CPS

Citibank Corp Awarded
Contract
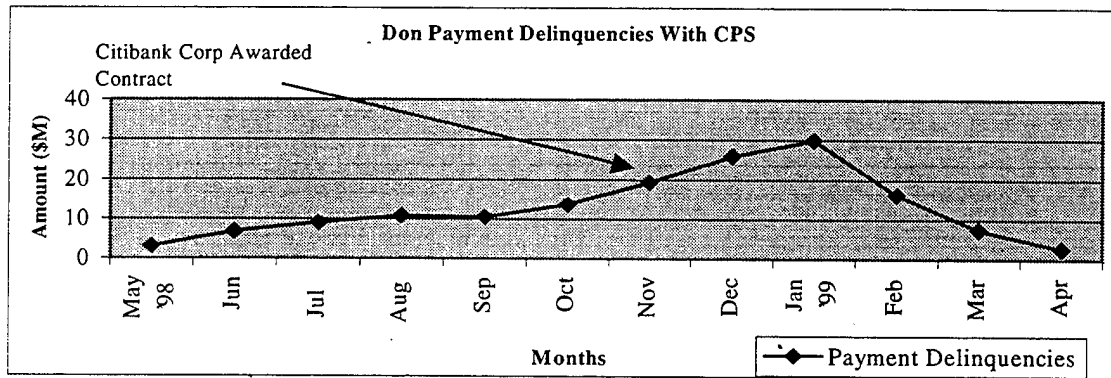
Figure 9. DoN Payment Delinquencies with CPS

Source: Naval Supply Systems Command, 1999.

DoN continues to face delinquency payment issues with the new contractor,

Citibank, as illustrated in Figure 10. The payment delinquencies in the graph reflect DoN

invoices that are 60 days past due.

DoN Payment Delinquencies with Citibank
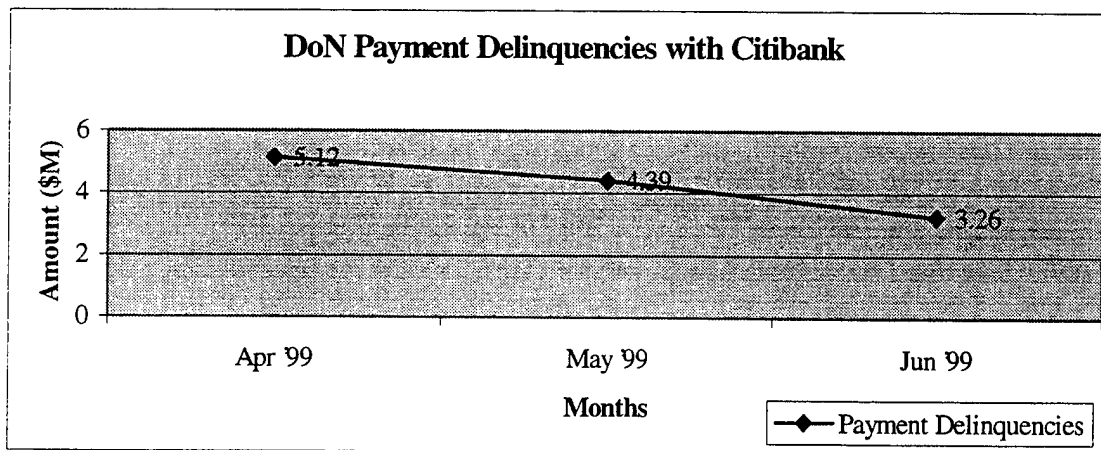
Figure 10. DoN Payment Delinquencies with Citibank

Source: Naval Supply Systems Command, 1999.

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Figure 11 combines the payment delinquencies for RMBCS, CPS, and Citibank, highlighting DoN's disbursement problems since 1997. The graph depicts payment delinquencies of 60 days or more.
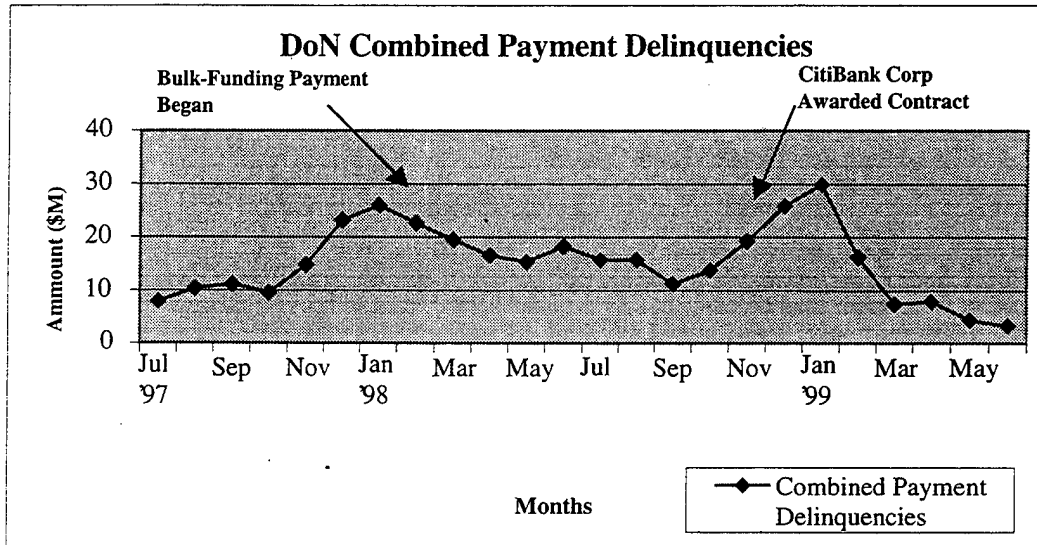
Figure 11. Don Combined Payment Delinquencies

Source: Naval Supply Systems Command, 1999.

B.   NPS INTEREST CHARGES

While Don experienced interest charges from the beginning of the purchase card program, NPS was able to overcome programmatic problems, using XP and FASTDATA. In Fiscal Year 1999 (beginning in October 1998), NPS reported interest penalties for three months, totaling $1,285. However, NPS has had five consecutive periods with zero interest charges since January 1999. Figure 12 depicts NPS's interest penalties.

NPS Interest Charges Paid
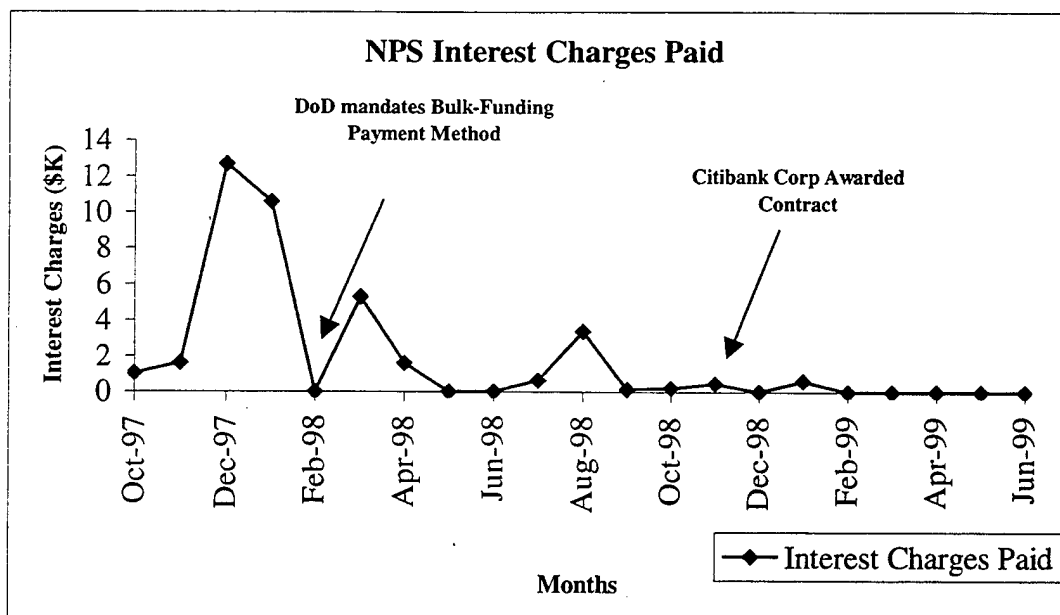
Figure 12. NPS Interest Charges Paid

Source: NPS Fiscal Department, 1999.

C.   NMC SAN DIEGO UNEXPENDED OBLIGATIONS

While complying with the DoD "bulk-funding" payment policy, NMC San Diego avoided payment delinquencies, but they encountered a new fiscal concern. The command experienced unexpended obligations in their bulk-funded accounts. After expenditures are transferred from the pre-designated line of accounting (as discussed in the previous chapter), a positive balance remained in the account. Thus, surplus funds remained idle until matching obligations are found to reduce the remaining balance. Table 3 lists the remaining funds in the bulk-funded accounts at NMC San Diego.

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FY 98	Balance ($)	FY 99	Balance ($)
Oct-97	Combined with Nov 97	Oct-98	66,576
Nov-97	39997	Nov-98	65,918
Dec-97	(1310)	Dec-98	0
Jan-98	9946	Jan-99	52,968
Feb-98	38218	Feb-99	135,127
Mar-98	15023	Mar-99	0
Apr-98	45341	Apr-99	0
May-98	491	May-99	97,348
Jun-98	17625	Jun-99	0
Jul-98	(130)	Jul-99	39,580
Aug-98	64133	**Total FY99**	**457,517**
Sep-98	17077		
Total FY98	**246051**		

Table 3. Remaining Funds in NMC San Diego Bulk-funded Accounts

Source: NMC San Diego Fiscal Department, 1999.

D. CITIDIRECT SYSTEM

As mentioned in Chapter II, the XP system is an interim solution until a replacement system becomes fully operational. Citibank is currently testing the Citidirect system; the anticipated deployment date for shore installations is during Fiscal Year 2000 (Ziedins, 1999). Citidirect will include functionalities similar to the XP system, but it is designed to be more streamlined and efficient, requiring minimal manual effort (Robinson, 1999).

Using the Internet, cardholders will be able to obligate credit card transactions to Citibank directly from their desktop computer. The Citidirect system will use an electronic transactional payment method, which automates processing and disbursing

purchase card invoices. Coordinating with participating commands, Citibank will maintain a pre-loaded database of detailed accounting information, which will be seamlessly retrieved when a cardholder records a purchase. After placing the order, the cardholder will enter appropriate ordering information in Citidirect, which will translate the data in a STARS-FL compatible Electronic Data Interchange (EDI) format. The information will be electronically transmitted to the STARS-FL system, which will automatically record an obligation online. Individual transactions will be maintained in the DoD official financial system and in the datawarehouse at Citidirect. At the end of the billing cycle, an invoice will be electronically transmitted to the command. (Robinson, 1999)

Citidirect will match the reconciliation information online against obligations already contained in the Citidirect database. No user intervention will be required to determine if obligations were previously posted; the statement information should be identical to the information contained in the system's database. After completing the invoice certification and supervisory review, the Citidirect system will electronically transmit the invoice to the STARS financial system for payment by DFAS. Citidirect will fully automate operations within the purchase cycle, eliminating redundant entries, reducing man-hours, minimizing processing errors, and increasing the purchase card program's efficiency. (Robinson, 1999)

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VI. DATA ANALYSIS

NPS implemented the XP system to automate purchase card operations. Complying with financial regulations, NPS integrated the transactional payment method into the XP system to electronically record transaction-level information in the financial system. Similarly, NMC San Diego deployed the RPSV3 system to electronically process their purchase card transactions, but their payment process involved the bulk-funding payment method. With bulk-funding procedures, NMC San Diego invested more time and labor in the accounting process, recapturing transaction information. The first part of this chapter analyzes and compares both reconciliation systems, and assesses the purchase card processes and the payment methods to determine program effectiveness at each facility.

The latter portion of this chapter assesses the financial performance of DoN, NPS, and NMC San Diego. NPS was the only known command to fully implement the XP system (Cartwright, 1999). Although navy-wide funding was terminated, NPS continued with the XP implementation, rather than abandon the program and employ bulk-funding payment methods. In the implementation stages, XP did not perform up to NPS's expectations, which produced payment delinquencies. NPS developed internal management controls to address the issues, which reduced their interest payments. During the same period, DoN directed navy commands (with the exception of NPS and SUPSHIPS) to implement bulk-funding payment policies to control navy-wide payment delinquencies. The latter section of this chapter evaluates payment performances of DoN and NPS to determine the impact of their policies. More importantly, the NPS and DoN

performance analysis will form the basis of the conclusion in Chapter VII as to whether NPS made the right decision to remain with XP.

1. NPS Purchase Card System

a) *XP Reliable and Functional*

After examining the system, XP seems to be operating reliably and functionally. However, the task of implementing a fully reliable and operational system was not easy. Shortly after XP's implementation, users encountered problems that affected system operations.

There were network issues, training deficiencies, interface problems (between XP and FASTDATA), and software glitches. Managers in the Comptroller Department organized employee training sessions and meetings to overcome the obstacles, which prevented XP from becoming fully functional. The command trained XP users on the system's mechanics. Meetings were held with representatives from the fiscal, supply, and information systems departments to discuss program shortfalls. The issues were relayed to SPAWAR software engineers for program revision. (Cartwright, 1999)

While software issues were being resolved, the deputy comptroller designed a control system to track rejected transactions identified by FASTDATA and STARS-FL. The goal was to identify and isolate processing errors produced by XP, FASTDATA, and STARS-FL. NPS and SPAWAR analyzed the failed transactions and discovered that all three systems had interface problems. Over a span of seven months

(February-August 1998), the interface problems between all three systems (XP, FASTDATA, and STARS-FL) were resolved, reducing error rates. (Cartwright, 1999)

It appears as if NPS's aggressive efforts in coordination, training, and systems analysis helped to narrow the scope of their implementation problems. Over time, NPS was able to control the number of transaction errors, resulting in a fully operational XP program linked to the FASTDATA and STARS-FL systems.

b) Purchasing Phase: Shorter Procurement Time

NPS cardholders are decentralized throughout the campus, resulting in expedient purchases in the procurement process. The average time to complete a routine purchase was twenty-four hours. This quick turnaround reflects that the cardholder is responsible for both screening and procurement actions, and XP provides convenient "pick lists" and simple-to-use menu options. Ordering information was entered in the system one time, satisfying the "single source data entry" requirement specified by DoD (Under Secretary of Defense, 1997). With one person executing all purchase-related functions (and using the expeditious data entry techniques with XP), procurement lead-time was significantly reduced.

c) Receiving Phase: Decentralized, Fast and Simple

Updating a transaction record for received merchandise was fast and simple with XP. Pop-up menus and screen prompts helped the cardholder quickly close out the transaction. Edited purchase information, such as quantity changes (for partial

shipments) and price adjustments, were easily processed using XP. "Pick lists" allowed speedy entry of receipt information using minimal keystrokes.

Similar to the purchase process, it appeared that manpower was minimized in receiving-related functions. In compliance with the separation of duties requirement in NAVSUPINST 4200.94, only two people were needed to perform this function: the receiver and the cardholder. At NPS, departments used the minimum number of personnel to satisfy this requirement, reducing resources used to perform warehousing and distribution functions. With a flatter structure and an automated receipt process, administering received shipments was relatively quick and easy.

d) Reconciliation Phase: Reduced Processing Time (Disadvantage: Remote Payment)

With only three days authorized to reconcile monthly billing statements, cardholders relied on XP to prepare certification statements. Pop-up menus guided the cardholder through the process. Minimal keystrokes were used to identify received merchandise. After electronically certifying the invoice, the system prepared and stored a detailed transaction listing for FASTDATA payment processing in a centralized (and network accessible) databank. Copying files to a diskette and hand-carrying it to the accounting department were eliminated. Because of these efficiencies, statements were reconciled in approximately one day, involving over 90 transactions and totaling close to $40,000. Tasks were fully automated, simplifying procedures and reducing processing time in the reconciliation phase.

One notable disadvantage discovered in the reconciliation phase was that payment processing was completed at a remote location. Currently, NPS pre-processes payment data in-house and forwards the information to SPAWAR. SPAWAR finalizes the reconciled data and electronically transmits the payment file to DFAS, normally within three business days.

The XP system at NPS cannot perform on-site payment processing. NPS relied on an external organization, SPAWAR, to complete the payment process. At SPAWAR, factors such as absence, miscommunication, and e-mail difficulties could affect payment timing. If SPAWAR were eliminated from the process, it might expedite payments and allow NPS to better control the payment process.

e) Accounting: Streamlined Operations

Similar to the receiving phase, the accounting process was fast and simple. XP transactions were electronically batched and forwarded to the FASTDATA system on a daily basis. The FASTDATA interface performed necessary accounting and funds screening functions prior to uploading into the STARS-FL system, and synchronized the accounting information between XP, FASTDATA, and STARS-FL.

The entire accounting process appeared to be automated without the need for accounting technicians to manually reenter "commitments" or "obligations" for purchase card transactions. The point of data entry occurred at the cardholder's level (using XP), allowing transactions to flow seamlessly to FASTDATA and STARS-FL. The process required minimal user intervention, tightly linked automated systems, and

streamlined accounting operations, eliminating the need for additional accounting resources.

2. NMC San Diego Purchase Card System

a) *RPSV3: Easy to Use*

Similar to XP, the RPSV3 system was perceived as being simple to use. The RPSV3 system provided user-friendly menus and electronic displays that facilitated timely processing of purchase card transactions.

b) *Purchasing Phase: Divisionalized*

Purchase card operations at NMC San Diego involved a divisionalized organization, compared to NPS. Prior to placing the order, purchase requests were routed to various sections in the procurement department. A technical controller, workload manager, and a data entry specialist performed specialized tasks to process the request. The request was manually transported from one section to another until it finally reached the cardholder. Compared to NPS, NMC San Diego had a higher degree of specialization, and a sequential structure that added more time in the purchasing process.

c) *Receiving Phase: Reduced Paper and Time*

Unlike NPS, NMC San Diego centralized the receiving phase to comply with the separation of duties outlined in NAVSUPINST 4200.94. Due to the volume of equipment and supplies arriving at NMC San Diego, a central location was used to receive and distribute procured materials. Routing supplies to a centralized receiving point reduced congestion in the hospital wards from vendor and delivery traffic.

It was observed that RPSV3 alleviated administrative burdens and saved time in processing the materials and equipment arrivals. Receiving personnel had access to the RSPV3 system to report shipment arrivals without searching filing cabinets, hardcopy listings, or contacting cardholders. Database searches were quick, and transaction updates were simple. With the assistance of RPSV3, receipt processing-time, paper work, and storage space were reduced, producing greater efficiency in receiving operations.

d) Reconciliations: Labor-intensive

The RPSV3 system had built-in capabilities to automate the reconciliation process, but the task was redundantly performed. Invoices were certified twice, once manually and once electronically. Cardholders initially performed manual reconciliations; a voucher examiner repeated the task by electronically processing the invoices using the RPSV3 system. While this method increased accuracy, the amount of labor to perform this function was costly. A voucher examiner normally took three weeks to reconcile a batch of 3000 entries.

The calculations and the formula below illustrate the annual direct labor costs for a voucher examiner rated at the GS-5 level. Labor rates were obtained from the 1999 U.S. Office of Personnel Management General Schedule (excluding locality pay). Additionally, fringe benefits such as retirement plans, health insurance, and life insurance were excluded from the calculation, due to the number of possible variations in labor costs based on employee selections.

Annual Direct Labor Cost = No. of reconciliation days x hours per average work day x hourly wage rate x 12 months

GS-5 Step-1:

Annual Direct Labor Cost = 15 x 8 x $9.86 x 12 = $14,198

Thus, approximately $14,000 in direct labor costs (excluding fringe benefits) were generated to perform reconciliation tasks on an annual basis at NMC San Diego. This figure could be higher, depending on the actual step increment, locality pay, and fringe benefits for the voucher examiner position.

After the completing the reconciliations, a listing was printed for the accounting department. According to the RSPV3 program coordinator, the capability exists within the system to transport reconciliation data from RSPV3 to STARS-FL on a diskette. As recommended in the 1997 Joint Report to the Under Secretaries of Defense (Acquisition and Technology, and Comptroller), an automated reconciliation system should be used to minimize manual efforts with the reconciliation and recording of purchase transactions (Department of Defense, 1997). Lacking the electronic link between purchase card transactions and STARS-FL, there was a missed opportunity to achieve a higher degree of efficiency in the reconciliation process at NMC San Diego.

    e)   *Accounting Phase: Labor-intensive*

Without an electronic interface between RPSV3 and the financial accounting system, accounting technicians manually obligated each purchase card transaction as it flowed through the procurement process. Furthermore, at the end of the

month, all certification statements were manually keyed in the financial system using a single accounting line to pay the invoices. In effect, two obligations (individual transactions and aggregate of certified invoices) were posted in the financial system; one for each purchase and another for invoice payments. After the invoice was paid by DFAS, an accounting technician manually redistributed the bulk-funded expense to each corresponding purchase card obligation.

Posting obligations and performing cost transfers generated approximately 30 percent of the accounting technician's monthly workload (Gibbons, 1999; Schroen, 1999). The following formula was used to calculate the annualized direct labor costs (excluding fringe benefits) to record accounting entries. The pay scale for an accounting technician was obtained from the same source used to calculate the voucher examiner's labor cost.

Annual Direct Labor Cost = Processing time (in percent) x **hours in a work month** x **hourly wage rate** x **12 months**

GS-7 Step 1:

Annual Direct Labor Cost = 30 percent x 160 x $12.22 x 12 = $7,038

Thus, approximately $7,000 in labor costs (excluding fringe benefits) were incurred to manually process purchase card transactions. If an automated system similar to XP were used, NMC San Diego would potentially save more than $7,000 in direct labor costs each year for accounting operations.

3.   Transactional Funding versus Bulk Funding

a)   *Transactional Funding: Streamlined Operations, Detailed Accounting*

NPS processed purchase transactions individually without accumulating purchase card charges into one accounting line for payment purposes. With this method, each transaction was entered in the system once. Payment was executed against the unique obligation for that transaction. Additional accounting entries were eliminated highlighting the streamlined design of the XP system.

As transactions flowed from XP to FASTDATA, automated validations were performed to ensure that an obligation existed and that the accounting entries were accurate. User intervention was primarily reserved to resolve errors detected by the system.

With the combination of XP and transactional funding, NPS processed billing statements under the 20-day maximum imposed by DoD (Under Secretary of Defense, 1997). NPS normally processed monthly statements in eight business days, routinely consisting of 1,300 transactions and one million dollars in purchases.

Examination of their accounting documents disclosed that transactional funding also preserved accounting details. Accounting information remained intact from the point of data entry (by the cardholder). Therefore, additional accounting entries were unnecessary in XP, FASTDATA, and STARS-FL. More importantly, cost distributions were avoided (to recapture accounting details), improving accounting process efficiency.

It appeared as if the transactional payment method used with the XP system achieved streamlined funding and accounting operations, as envisioned by the Financial Management and the Integrated Product Teams in their 1997 Joint Report to the Under Secretaries of Defense (Acquisition and Technology, and Comptroller).

b) Bulk Funding: Labor-intensive and costly

NMC San Diego employed the bulk-funding payment method required by DoD policy. The policy mandated that activities lacking an automated reconciliation system must use one line of accounting to avoid DFAS processing fees and to expedite payment.

The policy also acknowledged that some activities required detailed accounting records (which bulk-funding procedures lack). However, only activities with an automated reconciliation system linked to a financial system were authorized to use multiple lines of accounting. As discussed in Chapter III, NPS was one of only two naval activities that had this capability. Thus, a command such as NMC San Diego was limited to using the bulk funding method to pay their invoices. (Under Secretary of Defense, 1997)

Bulk funding procedures caused accounting operations at NMC San Diego to be labor-intensive. In order to recapture accounting details, cost transfers were performed manually, consuming time and resources.

4. Payment Performance

Shortly after initiating the DoD purchase card program, delinquent payments became a major concern. NPS and DoN interest payment data demonstrated the

delinquent payment problems encountered by both organizations from July 1997 to June 1999. Using the data from Figure 11 (Chapter V), monthly interest charges were computed for DoN. The results of the calculations serve as estimates, since NAVSUP was unable to provide actual interest data (purchase card interest payments were not separately recorded from DoN interest payments prior to FY99) (Taramelli, 1999). The interest rates (reported in successive six-month periods) were obtained from the Prompt Payment Act Interest Rates found on the U.S. Treasury website. The formula used to calculate the interest rates were obtained from NAVSUP and confirmed by DFAS (Taramelli, 1999; Gagnon, 1999).

Interest Charge = Outstanding Balance x **Prompt Payment Act Interest Rate** divided by **360 Days** x **No. of Days Past Due**

DoN's computed interest totals, along with actual NPS interest penalties, are listed in Appendix C (Interest Calculations). They were used to compare the payment performances for DoN and NPS.

Using the results in Appendix C, policy effectiveness was determined by measuring the interest payment charges occurring before and after its implementation. First, a monthly average was calculated for each period (before and after). Next, each period was compared with the overall mean (July 1997 to June 1999) to determine the policy's impact.

a)   DoN Estimated Interest Payments

Figure 13 illustrates the DoN delinquent payment experience (converted to estimated monthly interest payments) for the period from July 1997 to February 1998. In February 1998, the CPS platform and bulk-funding policies were implemented to address payment delinquency issues. Prior to the policy changes, monthly interest payments averaged approximately $162.6 thousand, which was higher than the overall mean amount of $154.01 thousand (July 1997 to June 1999). After February 1998, there was a decrease of $3.8 thousand dollars. This decrease suggests that DoN's bulk-funding policies had little impact on payment delinquencies. In fact, ten months after the policies were implemented, DoN interest charges peaked at more that $100 thousand above the overall mean of $154.01 thousand.
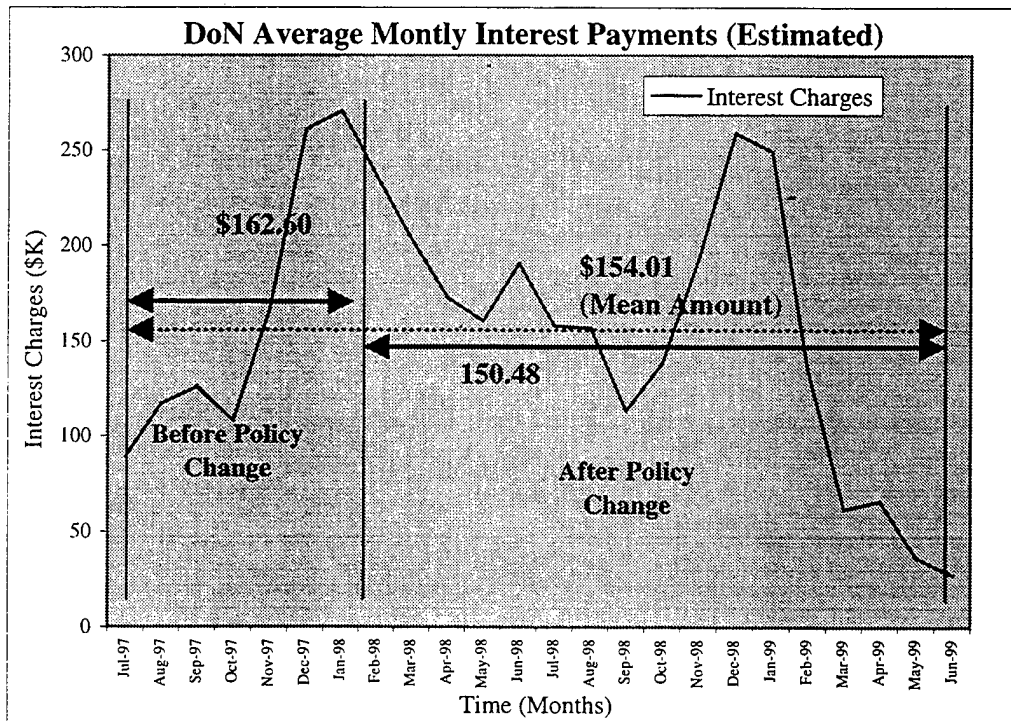
Figure 13. DoN Average Monthly Interest Payments (Estimated)

b) NPS Interest Charges

Similar to DoN, NPS interest charges were higher before February 1998, averaging $3.7 thousand per month. When the DoD policy changes went into effect, NPS introduced a new error-tracking policy to minimize errors and to address hardware and software deficiencies. When the system problems were resolved, NPS interest penalties declined. NPS managed to decrease their monthly interest charges from $3.7 thousand dollars to $.73 thousand over a two-year period. Figure 14 illustrates the changes in interest payments before and after NPS implemented internal error tracking controls.

From February to June 1999, NPS produced **zero interest payments,** while DoN continued to average $65.33 thousand in interest penalties. This suggests that NPS's error reduction policy was effective in resolving systemic problems, resulting in timely invoice payments.
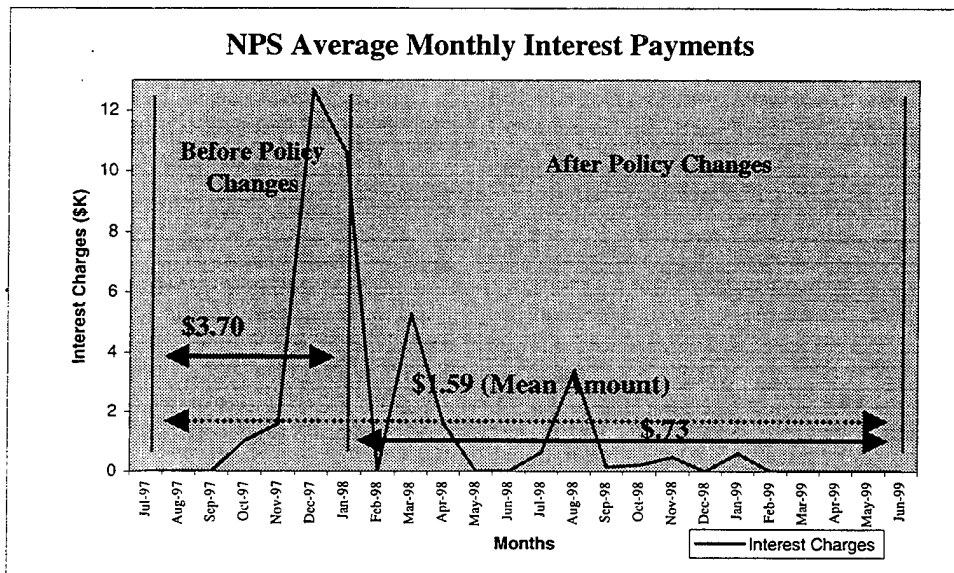
Figure 14. NPS Average Monthly Interest Payments

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Comparing the payment effectiveness between DoN and NPS, both entities suffered interest penalties prior to February 1998. Table 4 summarizes their payment difficulties prior to February 1998. Compared to their overall mean values, NPS experienced interest penalties with a 132.01 percent increase, while DoN experienced a 5.58 percent increase.

Organization	Pre-Feb-1998 Avg Interest ($K)	Entire Period Avg Interest ($K)	Percentage Change
DoN	162.601	154.012	5.58 (increase)
NPS	3.695	1.593	131.95 (increase)

Table 4. Interest Comparison **Before** February 1998.

Table 5 summarizes monthly interest charges after February 1998. NPS achieved a 54.36 percent decrease compared to DoN's 2.3 percent decrease. This provides support for the effectiveness of NPS's implementation of XP.

Organization	Post -1998 Avg Interest ($K)	Entire Period Avg Interest ($K)	Percentage Change
DoN	150.476	154.012	2.30 (decrease)
NPS	.727	1.593	54.36 (decrease)

Table 5. Interest Comparison for **After** February 1998.

Given that NMC San Diego did not incur any interest charges under the bulk-funding payment method, their payment performance was not discussed in this chapter. NMC San Diego disbursed their invoices in a timely manner avoiding any interest penalties.

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VII. CONCLUSIONS AND RECOMMENDATIONS

The XP system was initially designated as the "interim solution" to automate DoN's purchase card processes navy-wide. Beta testing was planned at several sites, with NPS chosen as one of the test sites. However, XP funding was terminated prior to full program implementation. Therefore, a complete system evaluation was not performed. NPS successfully implemented XP and overcame many programmatic issues. The XP system streamlined operations and increased efficiencies, resulting in timely payments.

This thesis analyzed the automated purchase card processes at NPS and NMC San Diego, compared DoD-approved payment methods, and examined payment performances of DoN, NPS, and NMC San Diego. This chapter presents conclusions, provides answers to research questions, offers recommendations, and provides areas for further study.

A.   CONCLUSIONS

1. The XP system has proven to be reliable, streamlined, efficient, cost-effective, and simple to use. All these qualities satisfy the automated requirements proposed in the 1997 Joint Report of the Purchase Card Financial Management Team and the Purchase Card Integrated Product Team.

2. The transactional payment method is compatible with the XP system, and together they were instrumental in reducing payment delinquencies at NPS. Once hardware and software problems were resolved, payment delinquencies declined.

3. Compared to the bulk funding payment method used at NMC San Diego, NPS was able to avoid expenditures in time and labor costs to execute accounting and reconciliation functions. Using NMC San Diego as a baseline, as much as $21,000 in direct labor costs per year (excluding fringe benefits and locality pay) were avoided using transactional payment methods.

4. Despite the funding cancellation for the XP program, NPS's decision to remain with the system proved to be prudent. The XP system fulfilled DoD's requirements for an automated reconciliation system, which allows interconnectivity with STARS-FL, provides for a singular source for data entry, and captures accounting details at the transaction level. These elements, along with XP's implementation, improved operations, reduced interest penalties, and increased efficiencies and program effectiveness at NPS.

B. RECOMMENDATIONS

1. After Citidirect is deployed (at shore installations), NPS should be given the option to continue using the XP and FASTDATA automated systems to facilitate purchase card operations until hardware and software issues are resolved. The XP and FASTDATA systems have demonstrated reliability and efficiency. Converting to a new system will incur "switching costs" in terms of implementation and training. Established NPS purchase card processes will need to be modified, and user training (cardholders, fiscal staff members, and supply personnel) will be required to learn the Citidirect system. NPS will be investing a significant amount of time converting to a new system, which is not yet fully operational, even though they currently have a fully capable system. In a message sent by NAVSUP early this year, Citidirect's current fleet testing

has shown limited success, due to hardware and other programmatic issues. This prompted an expanded number of pilot test sites (Naval Supply Systems Command, 1999c). This adds credence to the recommendation for NPS to continue with XP and FASTDATA until the Citidirect system is completely field-tested and ready for shore-wide implementation.

2. SPAWAR should investigate delegating payment processing to NPS, which may further streamline local purchase card operations. With necessary resources and the central database located onsite, unnecessary file transfers (to SPAWAR) and coordination (with SPAWAR) could be eliminated, reducing time and effort in the payment process.

3. At NMC San Diego, the cardholders should perform reconciliations using RPSV3, streamlining this stage of the purchase card process. Eliminating redundant invoice certifications could save man-hours.

4. At NMC San Diego, either install the XP system, or consult with the RPSV3 program coordinator to allow certified transactions to be transferred to a diskette. This would enable electronic accounting and payment processing, producing greater efficiencies in these areas.

C.   ANSWERS TO RESEARCH QUESTIONS

1.   Primary Research Question

a. What are the benefits of using the Express Purchase (XP) Program in the purchasing, accounting, reconciliation, and payment operations at the Naval Postgraduate School? The benefits of using the XP system for purchase card operations are: cost savings, streamlined accounting and payment operations, reduced errors,

minimized keyboard entries, and timely invoice certification. Using XP and employing transactional payment methods, an activity such as NMC San Diego could save as much as $21,000 per year in direct labor costs (excluding fringe benefits).

2. Secondary Research Questions

a. What are the differences between the transactional and bulk-funding payment methods? The transactional payment method allows pays invoices by individual lines of accounting, and preserves accounting details so that shore activities can perform required cost accounting and reporting functions. Purchase transactions are individually obligated and expensed using the XP system (and associated electronic platforms), which improves purchase card program effectiveness.

On the other hand, the bulk-funding payment method uses one line of accounting to pay certified invoices. Shore activities must perform additional accounting functions, such as double obligations and multiple cost transfers, to recapture necessary accounting information for each purchase transaction.

b. Why was the funding for the XP Program terminated? DoN designated the XP program as an interim automated reconciliation system until such time as a contractor would agree to develop a system that would fulfill DoN purchase card automation requirements. Citibank assumed purchase card services on 30 November 1998, and promised to deliver an automated reconciliation program, called Citidirect, for distribution navy-wide. Funding for the XP program terminated shortly after the contract with Citibank Corp was negotiated.

c. Why did the XP Program continue at the Naval Postgraduate School after funding was terminated navy wide? Financial managers at NPS recognized the potential benefits of the XP system after the system was implemented. Once the systemic problems were resolved, the XP system raised efficiencies, enhanced program effectiveness, and avoided costly interest penalties.

D. AREAS FOR FURTHER RESEARCH

1. After the implementation of Citidirect at a shore activity, compare Citidirect operations to XP, and determine the savings, if any, produced with the new system.

2. Compare the systemic problems that Citidirect has encountered with those that XP experienced during its implementation. The new system may experience the same or similar problems as XP. An after-action assessment would provide "lessons learned" for the newly developed system and potentially avoid repeated problems.

3. Given that NMC San Diego encounters unexpended obligations after paying their invoice, how many other DoN activities have similar experiences? Unexpended obligations are idle funds that may be used in other operational areas. If the appropriation lapses for that fiscal year, there is an opportunity cost associated with not being able to use the obligated funds for other requirements.

APPENDIX A. ACRONYMS

APC - Agency Program Coordinator

AO - Approving Official

BUMED - Bureau of Medicine and Surgery

CPS - Commercial Payment System

DFAS -Defense Finance and Accounting Service

DoD - Department of Defense

DoDFMR - Department of Defense Financial Management
         Regulation

DoN - Department of the Navy

EC/EDI - Electronic Commerce/Electronic Data Interchange

FAR - Federal Acquisition Regulation

FASA - Federal Acquisition Streamlining Act

FISC - Fleet Industrial Support Center

FMO - Financial Management Office

FPI - Federal Prison Industries

FY - Fiscal Year

GAO - General Accounting Office

GSA - General Services Administration

HAZMAT. - Hazardous Material

I.M.P.A.C. - International Merchant Purchase Authorization
             Card

IPT - Integrated Product Team

IRMD - Information Resources Management Department

JON - Job Order Number

LOA - Line of Accounting

LAN - Local Area Network

MTF - Medical Treatment Facility

NAVMASSO - Navy Management Systems Support Office

NAVSEA - Naval Sea Systems Command

NAVSUP - Naval Supply Systems Command

NIB - National Industries for the Blind

NISH - National Industries for the Severely Handicapped

NMC - Naval Medical Center

NPR - National Performance Review

NPS -Naval Postgraduate School

OPLOCS - Operating Locations

OPTAR - Operating Target

PADPS - Purchase Card Automated Data Processing System

PMR - Procurement Management Reviews

PR - Purchase Request

RMBCS - Rocky Mountain BankCard System

RPSV3 - Requisition Procurement System Version 3.0

SIMA - in Shore Intermediate Maintenance Activity

SPAWAR - Space and Naval Warfare Systems Command

STARS-FL - Standard Accounting and Reporting System- Field
          Level

UPS - United Parcel Service

USD(C)- Under Secretary of Defense (Comptroller)

XP - Express Purchase

APPENDIX B. XP SYSTEM OUTPUT

Recording a Purchase Screen

```
PA3B0000                    XP RECORD A PURCHASE              7141 21 May 97 11:18
Purchase    Buy Util    Query    Report    Vendor Maint    System Util    Exit


  OPTAR: 10651        JOB ORDER NBR: 120NPQ        KUC: 96


  VENDOR: ►COMPUTER DISCOUNT WAREHOUSE              BUYER:  ►ANSPACHERJ


  PURCHASE DATE: 05/21/97  TRANS: $    0.00   PRINT Buyers WorkSheet (Y/N): N


  NOMEN: HP LASERJET V INK CARTRIDGE     FUND: AA    DIST: 99

  REQN NBR: 71216701  SEQN: 1    UI: EA    QTY:      6    PRICE:        89.000

  PROPERTY: 212068  COST CODE: 565617120NPQ  RECEIVED (Y/N): Y

  RECEIVED BY: KATHY SCHWARTZ


[ESC]=Exit   [F1]=Help   [Ctrl F1]=Fld Hlp   [F2]=Prpty/Cst  [F3]=Fnd Cd [F5]=Descr
[F6]=Quote Info   [Ctrl F9]=Query   [F10]=Accept Reqn   [Ctrl F10]=Comp Buy
```

Source: XP User's Manual

Purchase Completion Notification Screen

Source: XP User's Manual

BUYER'S WORKSHEET

07/19/99

BUYER'S SIGNATURE
CLAUDIA SCHOOLFIELD

BUYER'S WORKSHEET

	BPA CALL NO.	APPROVAL 1	APPROVAL 2
BPA NO.		CONTRACT NO.	
PO NO.	CDO NO. 99-H-6508-9132	DELIVERY NO.	BUY NO. 28446 / DATE ORDER PLACED 05/06/99

NOTES:

WINNING VENDOR
OFFICE MAX
1130 BLOSSOM HILL ROAD
SAN JOSE, CA 95118
BUSINESS: LARGE

POINT OF CONTACT	TELEPHONE NO.
DATE CALLED: 05/12/99	QUOTE NO.
QUOTE DATE: 05/12/99	
DELIVERY DATE	TERMS
FOB: Destination	

ITEM NO.	REQUISITION NUMBER NOMENCLATURE	QUANTITY U/I	UNIT PRICE	EXTENDED PRICE	PAA	JON/COST CODE	EE
1	9RO36113 XEROX PAPER	58 BX	16.990	985.42	036113	622719D3600	T
	TOTAL			985.42			

REMARKS

Source: Printed from XP Program

Receipt of Material Screen

```
PA350000              XP RECEIPT OF MATERIAL           7141 21 May 97 11:
 Purchase     Buy Util    Query    Report    Vendor Maint    System Util    Exit

 Record a Purchase
                         ═══════ [ENTER]=ACCEPT KEY ═══════
   Contract Number:                    OR Requisition Number:

   Reqn Num  Line#          Nomenclature        Buy Num        Contract

   12345679    1   95 RESOURCE KIT                 78      97-H-0516-7101
   12347896    1   NOMEN                           79      97-H-0519-7133
   12365488    2   BIG LUG NUTS FOR TIRES          96      97-H-0536-7139
   13452167    1   NOMEN                           85      97-H-0525-7134
   23441567    1   NOMEN                           82      97-H-0522-7134
   62741C01    1   MAINTENANCE CERT TEST 706       52      97-H-1241-7273
   62761A01    1   PENCILS, BLUE, BALLPOINT,       1       97-H-0493-6276
   6277F101    1   TEST RECEIPT                    10      97-H-0267-6277
   6281JP39    1   FLANGE                          13      97-H-0274-7015
   6281JP40    1   THROTTLE LEVER                  13      97-H-0274-7015
   6281JP41    1   VANE PACK                       13      97-H-0274-7015
   6281JP42    1   EXHAUST KIT                     13      97-H-0274-7015
                  ═══ ↕ to Scroll   [F10]=Accept ═══
                      SELECT REQUISITION NUMBER

 [ESC]=Exit   [F1]=Help   [F4]=Buy Num
```

Source: XP User's Manual

Receipt of Material Follow-on Screen

```
┌──────────────────────────────────────────────────────────────────────┐
│ PA350000              XP RECEIPT OF MATERIAL          7137 17 May 97  1:2│
│ Purchase    Buy Util   Query    Report   Vendor Maint  System Util  Exit│
│ ─────────────────────────── BUY NUMBER 1 ──────────────────────────────│
│ ┌────────────────────────────────────────────────────────────────────┐ │
│ │ FULLER AND D'ALBERT INC               Contact:                       │ │
│ │ 3170 CAMPBELL DR.                     Telephone:              Ext:    │ │
│ │ FAIRFAX, VA 22031                     Cntrct Nbr: 97-H-0493-6276      │ │
│ │                                                                      │ │
│ │ Purchase Date: 10/02/96           Est Delv Date: 10/02/96            │ │
│ └────────────────────────────────────────────────────────────────────┘ │
│                                                                          │
│   REQN NUM: 62761A01   SEQ NUM:   1   NOMEN: PENCILS, BLUE, BALLPOINT,   │
│                                                                          │
│   UI: DZ  QTY ORD: 8      QTY RCVD:  0     QTY RCVNG: ████               │
│                                                                          │
│   RCVD DATE: ████████   RCVD BY: ████████████████   RCVNG SHOP: ████     │
│                                                                          │
│            FULL/PARTIAL (F/P): █   DISCREPANCY (Y/N): █                  │
│      ┌──────────────────────── REMARKS ─────────────────────────┐       │
│      │ ████████████████████████████████████████████████████████ │       │
│      │ ████████████████████████████████████████████████████████ │       │
│      └───────────────────────────────────────────────────────────┘      │
│ ───────────────────────────────────────────────────────────────────────│
│ [ESC]=Exit  [F1]=Help  [Ctrl F1]=Field Help  [F5]=Descript  [Ctrl F9]=Query│
│ [F4]=Select  [PgUp]=Previous  [PgDn]=Next   [F10]=Accept                 │
└──────────────────────────────────────────────────────────────────────┘
```

Source: XP User's Manual

Invoice Certification Screen

```
PA390000                   XP INVOICE CERTIFICATION           7141 21 May 97  3:
  Purchase    Buy Util    Query    Report    Vendor Maint    System Util    EXi

    Record a Purchase
 ═ BC RECEIPTS for ACTIVITY N00281 ═              RECEIPTS SELECTED ══════
 Reqn Num  Line  Rcp   Qty   Date Rcvd       Reqn Num  Line  Rcp   Qty   Date Rcvd
 ─────────────────────────────────────       ──────────────────────────────────
 62761C02    1    2     2   10/03/96          62761A03    1    1    8   10/02/96
 62761E01    1    1     4   10/02/96          62761C01    1    1    2   10/02/96
 62761F01    1    1     4   10/02/96
 62761N01    1    1     4   10/02/96
 62761S01    1    1    12   10/02/96
 62821A01    1    2     8   01/08/97
 62821A02    1    2     6   01/08/97
 62821A03    1    2    12   01/08/97
 62821A04    1    2     4   01/08/97
 62831A02    1    1     4   10/09/96
 62831A03    1    1     4   10/09/96
 62961A02    1    1     8   10/24/96
 ═════ ↕ To Scroll   [F10]=Accept ═════

 [ESC]=Exit   [F1]=Help
 [Ctrl F6]=All Rcpts   [Ctrl F9]=Query   [Ctrl F10]=Accept Selections
```

Source: XP User's Manual

Invoice Certification (Receipts Selected) Screen

Source: XP User's Manual

Invoice Certification (Invoice Information) Screen

```
PA390000                 XP INVOICE CERTIFICATION        7141 21 May 97  3:
 Purchase   Buy Util   Query   Report   Vendor Maint   System Util    EXI


                   ***  ROCKY MOUNTAIN NATIONAL BANK  ***


 Invoice Number:                    Discount       :
 Invoice Date  :                    Invoice Total  :
 Date Inv Recvd:                    Transportation:              Amount Paid
 Date Inv Rejcd:                    Inv Shrt Pay  :                1025.52

 Reqn No.   Call#     Nomenclature      Qty Ord  Qty Rcvd  Shrt Pay   Amt Paid
 ────────   ─────     ────────────      ───────  ────────  ────────   ────────
 62761A03   H0493   PENS, RED, BALLPOI      8        8
 62761C01   H0495   METER, AC/DC, TEST      2        2



                                             TOTAL:       0.00      1025.52

 [F2]=Comments
 [ESC]=Exit  [F1]=Help  [Ctrl F1]=Field Help  [Ctrl F9]=Query  [F1C]=Accept
```

Source: XP User's Manual

Invoice Certification (Signature Line) Screen

```
PA390000               XP INVOICE CERTIFICATION        7141 21 May 97  3:
Purchase    Buy Util    Query    Report    Vendor Maint    System Util    Exit

                          Certification Signature

     I CERTIFY THAT THE ABOVE INVOICE IS CORRECT AND PROPER FOR PAYMENT

 I   TITLE: ███████████████      Activity: ███████████████
 I
 D   P.O.C.: ████████████████████████
 D
     Phone: ██████████████    DSN: ██████████

 R   I CERTIFY THAT THE ACCOUNTING DATA IS ACCURATE; FUNDS ARE OBLIGATED AND
 -   WILL NOT BE DE-OBLIGATED; CHARGES HAVE BEEN APPLIED TO THE APPROPRIATE
 6   ACRN; AVAILABLE FUNDS HAVE BEEN DECREMENTED.
 6
     TITLE: ███████████████      Activity: ███████████████

     P.O.C.: ████████████████████████

     Phone: ██████████████    DSN: ██████████

[F2
[ESC]=Exit  [F1]=Help  [Ctrl F1]=Field Help  [Ctrl F9]=Query  [F10]=Accept
```

Source: XP User's Manual

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APPENDIX C. INTEREST CHARGES

Date	Delinquent Payments ($M) (a)	Rate (b)	Computed DoN Interest Charges ($K) ((a)*(b))	Actual NPS Interest Charges ($K)
Jul-97	7.90	0.0675	88.88	0.000
Aug-97	10.40	0.0675	117.00	0.000
Sep-97	11.20	0.0675	126.00	0.000
Oct-97	9.60	0.0675	108.00	1.018
Nov-97	14.80	0.0675	166.50	1.594
Dec-97	23.20	0.0675	261.00	12.669
Jan-98	26.00	0.0625	270.83	10.584
Feb-98	22.70	0.0625	236.46	0.000
Mar-98	19.50	0.0625	203.13	5.283
Apr-98	16.60	0.0625	172.92	1.610
May-98	15.40	0.0625	160.42	0.000
Jun-98	18.30	0.0625	190.63	0.000
Jul-98	15.80	0.0600	158.00	0.636
Aug-98	15.70	0.0600	157.00	3.401
Sep-98	11.33	0.0600	113.27	0.146
Oct-98	13.84	0.0600	138.44	0.211
Nov-98	19.30	0.0600	193.00	0.480
Dec-98	25.90	0.0600	259.00	0.000
Jan-99	29.90	0.0500	249.17	0.594
Feb-99	16.20	0.0500	135.00	0.000
Mar-99	7.40	0.0500	61.67	0.000
Apr-99	7.90	0.0500	65.83	0.000
May-99	4.40	0.0500	36.67	0.000
Jun-99	3.30	0.0500	27.50	0.000

Source: U.S. Treasury Department (Interest Rates); NAVSUP (DoN Payment Delinquency Data); NPS Fiscal Department (Interest Charges)

Note: Interest was converted from data in Figure 11.

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